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CULTURE, SOCIETY, AND MENTAL DISORDER
IN SOUTH EAST ASIA

Some Theoretical Considerations
 A Study in the Epidemiology of Mental Disorder
 Singapore: Source of Principal Data

The Chinese

The Indians

H. B. M. M U R P H Y

M.B., Ch.B., D.P.H.

Europeans and Eurasians

Immigration, Language and Minority
 Group Status

Urban Distribution

Occupation, Education, and Social Class

Religion

A Thesis submitted for the Degree of M.D.

Household Primary Groups

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Introduction

Some Theoretical Considerations

There probably was never a time when the connection between individual mental disturbances and environmental social phenomena was not recognized by the best clinicians. However, it is only in about the last sixty years that this connection has been regarded as appropriate for research, and only for about the last ten years has it been regarded as also within the realm of social medicine. Hence most of the research to date has been carried on either by sociologists (theorizing can be said to have started with Durkheim's study of suicide) to whom mental disorder was usually but one symptom of social inefficiency or disorganization, or by psychiatrists for whom social and cultural data were mainly of interest for validating one or other psychiatric theory. Both these approaches, as also those of the anthropologist who uses psychoanalytical concepts or the psychologist interested in cultural strains, are quite valid and have been usefully complementary, but one does find that the theoretical basis for such research is often not clearly presented, and the concepts used, especially when they come from another discipline, are often not clearly defined. Thus, the concept of mental disease may be widely referred to without the significance of the particular definition which is used being explored, or the concepts of personal role and physical environment may be loosely treated as belonging to the same class of phenomena without any clear explanation. Moreover, these approaches do not overlap quite as much as one would wish, so that there are thin areas or real lacunae quite close to the centre of the subject. In particular, none of these approaches covers the area which is of

special concern to social medicine, namely the problem of identifying those relationships between environment and disease whose modification may be possible and profitable on a wide scale.

For these reasons, I think it useful to spend a little time here exploring the main assumptions on which the present study is based and some of the theoretical problems which these assumptions present. This is additionally desirable since the approach used is a little different from that of most previous writers.

The main assumption is that environment can affect health not only by direct impact but through the medium of the mental reactions which its stimuli elicit. Secondly, it is assumed that such effect operates not through a single stimulus and response but from a multiplicity of experiences both past and present, the past experiences contributing to the mental 'set' which determines how a current event will be responded to. Thirdly, as the relevant mental reactions are almost infinite in kind and in degree it is believed that the types of disorder which they produce will also be very varied, with numerous gradations between them. Finally, while each individual's reactions and each individual's environment are strictly unique it is assumed to be both practicable and useful to group them into types or classes along a number of different dimensions.

None of these assumptions is so self-evident as to possess no opponents and none is without quite complex implications. Their proof, or at least their demonstration, will be attempted in the subsequent chapters and at the end we will consider whether they have seemed justified. Their implications, however, may be explored now.

The first assumption involves the environmental event as it touches the organism; its perception and combination with other percepts or

assessory to pass over the nature of the intermediate links, we must never forget that we are concerned with the mental reaction to this combined stimulus; and the impact of that reaction on the health of the individual. It thus becomes clear that we are concerned with (a) the environment; (b) its perception; (c) the way in which different environmental percepts are likely to combine; (d) the mental reaction; (e) the process whereby such response affects health; and (f) the disease. The separation of (b) and (c) may be unnecessary -- it is a moot point among psychologists at the present -- but otherwise it is clear that we have a complex mechanism to deal with and that some of these steps are going to be exceedingly difficult to explore outside of the laboratory. In field or mass observations empirical data on mental reaction which are capable of being combined with data on health are rarely to be found -- one thinks of the few studies that have been done relating sickness data to the various stages of mental reaction during a war -- and when these are available the further data which could refer to the earlier steps in the chain of causation (e.g. degree of involvement in war effort, exposure to propaganda) are very unlikely to be present for the same subjects. There is a temptation, therefore, to seek information only on the first and last links, on the environment and the sickness, and to ignore the rest, but the findings from such an approach are not likely to be valid outside certain limited (though usually undefined) cultural and social bounds. For instance, the perception of poverty varies independently from the environmental state of poverty and hence the mental reaction and consequent disturbance of health, if any, may be quite different between peoples with different percepts even though the environmental position is similar. What one must say, I think, is that while it will often be nec-

the mental processes, we cannot assume any single observation about the

essary to pass over the nature of the intermediate links, we must never forget that they do exist or to question whether our assumptions on their nature are reasonable.

It is not only the intermediate steps, however, which offer problems. The apparently simple concepts of environment and of disease cease to be so simple immediately one pays them a second glance. This is most obvious with disease if one asks at what point a mental reaction becomes a diseased mental reaction. But the same can also be said of environment if we ask which aspects of occupation or which aspects of age are personal and which are environmental. If a man works in a factory the type of social organisation within that factory is fairly obviously environmental while the decision to join that factory rather than another, or that trade rather than another, would appear to be personal. However, is the choice still personal if there is no other work to be had in that town, or if his father puts him into that trade when he is still a minor? And is the social organisation around him still independent of his personality if he is a shop steward or foreman instead of an ordinary workman? There is a zone of interpenetration of person and environment which is exceedingly important to us since all people surround themselves with such a shield and hence modify not only the way in which environment is perceived but also the way in which it behaves. A man at age fifty will be treated differently by his environment than if he is age fifteen largely because of his way of acting, and if he behaves as if he were fifteen he will be treated quite otherwise. There is nothing about this that makes the initial division of person and environment incorrect, but lack of adequate prior exploration of this phenomenon under different conditions means that, as with the mental processes, we cannot assume any single observation about the

division between environment and personality to hold good generally. There seems to be adequate weight to the influence of culture and childhood experience, we will have to consider whether the environmental element in a personality usually give inadequate consideration either to constitutional or to contemporary environmental influences, both biological and social; it was found to be irrelevant in another. And we will have to examine and vice versa. Hence I cannot say that the following chapters are bemixed concepts such as age or occupation anew each time we come across them written with a specific view of personality, and hence with a declared bias that the reader can allow for, in mind. It would be pleasant to estimate we considered them. In other words we will have to ask if being fifty years old has the same meaning environmentally for a Chinese and a Scot, or for a miner and a professor.

In assessing this zone of interpenetration or in trying to build some picture of the intermediate mental steps it is clear that viewpoint is going to play an important role, and one may ask at this point, therefore, what theory of personality an author holds. The way in which number of theories have contributed to the selection of variables and temporary and historic factors are likely to combine in producing a mental reaction will be seen very differently by adherents of Freudian theory and able to identify them. I have been more concerned to see whether these followers of Allport or Lewin and the effect of mental processes on health theories could have predicted some of my findings than to make my findings can be equally variously interpreted. In selecting evidence, or in selecting some theory, but to disclaim the latter tendency entirely is too much. The most I can claim is that I have endeavored to see that such partial other school will tend to exclude aspects which would be picked up or emphasized by other people. It would therefore seem desirable that authors

This question of compatibility, however, faces us immediately in this field should declare what stand they take on such points and hence we turn to the other basic assumptions. On the one hand I have stated imply what their own biases are. Unfortunately this is not at all easy to do, at least in my own case. No existing personality theory appears complete enough to encompass all the various aspects of life which ask to be

The theories of Gardner Murphy would seem to be the most comprehensive taken into consideration in a study such as this. Those which give what which less comprehensive ones do.

seems to be adequate weight to the influence of culture and childhood experience usually give inadequate consideration either to constitutional or to contemporary environmental influences, both biological and social; and vice versa.* Hence I cannot say that the following chapters are being written with a specific view of personality, and hence with a declared bias that the reader can allow for, in mind. It would be pleasant to escape from the question by saying that personality theory does not enter in and that one reasons by induction from empirical data only, but this would not be true. Theoretical considerations do determine the choice of variables being studied, and even if this could be avoided I would regard it as a great loss not to be able to relate my findings to the wider considerations which such theories open. I can only say, therefore, that a number of theories have contributed to the selection of variables and topics for discussion here, and that the informed reader should usually be able to identify them. I have been more concerned to see whether these theories could have predicted some of my findings than to make my findings fit some theory, but to disclaim the latter tendency entirely is too much. The most I can claim is that I have endeavored to see that such partial theories as have been used are not incompatible with each other.

This question of compatibility, however, faces us immediately we turn to the other basic assumptions. On the one hand I have stated that I believe mental reactions and the diseases which they produce to be the result not of a single stimulus or environmental event, but of a wide

*The theories of Gardner Murphy would seem to be the most comprehensive of those I have read, but I have not found them to offer the challenge which less comprehensive ones do.

*Discussion of earlier studies will be made under the appropriate chapters below.

complex of past and present experiences (plus, of course, those aspects of personality which are not environmentally determined). This is close to the Gestalt or holistic position. On the other hand I have suggested that it is possible to divide life experience into parts or dimensions which will be operationally significant and useful, and this a Gestalt theorist might challenge, with apparently good reason. If one considers past research* it is clear that about the only incontrovertible findings have been those dealing with total life experience, e.g., comparisons of the health experience of Whites and Negroes. Immediately one finds a separation of one aspect of life from the remainder and an attempt to correlate that with health, the results are questioned. Either they are not repeatable under all conditions, or the correlation is so varying as to be doubtful, or the findings can be challenged on the grounds that it is not factor X which has been at work, as claimed, but factor Y which was not explored. For instance, an association has been demonstrated between type of maternal parent and type or incidence of mental disorder, but this association could not be demonstrated in other material. Or, migrants to another land can be shown to have higher rates of disease than non-migrants, but it has been argued that it may be the type of occupation the immigrant is forced to enter, and not his migration, which is the prime factor. I think it is true to say that there is no single conventional category of environmental experience which has been demonstrated to have a constant relation to health (mediated through mental processes) irrespective of changes in other cultural and social factors. The only categories which do hold such a relationship are those which can be presumed to act directly, and in which past

*Discussion of earlier studies will be made under the appropriate chapters below.

experiences are not important, like hypovitaminosis. Is it therefore the case that if one wants to deal with mental processes one must take the whole man, or if one wants to deal with partial life experiences one must take only such instances where the environment operates directly?

The answer is, I believe, that what are defective are our methods, not our basic approach. The division of the body into systems has been a successful heuristic device despite the fact that these systems are admittedly interdependent, overlapping and incomplete. A division of the psychological environment into systems or dimensions should be similarly useful for the level at which we wish to work, i.e., for the purpose of identifying facets or complexes of experience whose investigation might enlarge our understanding or whose modification might affect an increase in health. We are not attempting to be an exact science or to cover the whole of life with our concepts, and we might be quite satisfied to examine experience along a single dimension while knowing that many other interrelated dimensions exist, if only the classification served our ends. The difficulty is that most classifications used in the past have been borrowed from other disciplines and have not been reconceptualised for our own purposes.

There are two problems here. The one is that the means of measuring those aspects of the social environment which most obviously concern us do not at present exist. The other is that the psychological content of existing categories of experience is frequently unknown and unexplored. In relating mental health to social conditions it would, in the present state of our theory, be much more meaningful to know how a man occupies himself in his 'spare' time or what degree of responsibility or reliability

his job demands, than to know what acquired skills it uses. But there are no ready-made measures of the former factors and we would be hard put to devise them. On the other hand we too rarely know anything about the experiential meaning of existing classifications. In what way does the psychological field of a carpenter differ from that of a clerk? What are the percepts and reactions associated with being twenty years old instead of thirty, or living three persons to a room instead of one? We do not know. Sometimes the answers exist but have not been assimilated, sometimes they do not exist at all. It is for this reason, I think that past studies of the social field have yielded relatively little to medical and psychiatric theory, and virtually nothing to preventive practice.

There seem two main ways of improving this situation. The one is to invent our own classifications and then devise indicators for them, as was done very simply in the concept of maternal deprivation and with more complexity in that of social isolation. The advantage of this approach is that the concepts, and hence the results, are likely to have more general application. The disadvantage is that practical indicators suitable for application to sufficiently large populations are difficult to devise and to apply, even though the populations may be smaller than other approaches require. Also, it is to be doubted whether our theory at present is developed enough to provide the concepts required. The other method permits more immediate action to be taken, although the difficulties in the end are almost as great. Here one starts from existing demographic and economic classifications, examines them to see what psychological connotation they possess, and by combining them seeks to arrive at some more precise and

relevant picture. Sometimes this can be easy. For instance, the demographic concepts of race and of census tract have little psychological meaning for us, but when combined they can provide one measure for the still abstract and general concept of 'neighborhood minority status,' which offers very much more. Usually, however, it will be necessary to reduce these demographic generalizations to concrete examples, analyze their psychological content, and then try and abstract our own generalisations from the result. If instead of combining race with census tract one combines it with occupation no immediately useful typology comes to mind, and even if one combines specific units - Negro engine driver or French farmer, for instance - it has little meaning for us. But further combination can give us a unit such as the young married French Lyonnaise vineyard owner, possessing less than three hectares of land and living in communities of less than 5,000; and this offers a much clearer picture of social and psychological environment, or at least permits investigation and approximate definition of that environment. Then, with such concrete examples in hand and seeing how they relate to our indices of health, we may be able to begin abstracting our own variables using dimensions like parent-child relationship, pattern of authority, distribution of responsibility, social cohesion. The very difficulty of naming such dimensions (the reader is invited to try inventing them for himself) indicates how little we have penetrated into this field of psycho-social systems. Clearly, very much work needs to be done in this direction, both in the way of assimilating what other social sciences, anthropology in particular, can tell us, and in exploring for ourselves. But I feel that this latter

approach has the advantage of laying down some basic data from which conceptualisation can grow, whereas trying to create new concepts from present theory is hampered by the fact that the latter is too little advanced.

In combining demographic variables to provide more concrete psychological examples, as suggested above, the disadvantage has always been that the size of population must be very large for the type of health indicator used. The inclusion of five variables with only five classes in each means theoretically 5^5 or 3125 cells in each of which there must be a sufficiently large group not only for one's indicator rate to be calculable, but for differences between cell rates to be significant. In theory, therefore, one would have to bring more than ten thousand persons for medical examination or possess tens of millions of man-years out of which to measure hospitalisation rates if either of these were to be used as indices. In practice the construction of a complete matrix in this fashion has never to my knowledge been attempted - I feel it should be, at least once, and modern computers make the handling of so many cells relatively easy - but although devices are used to reduce the number of cells or partial analyses are substituted for the whole series the size of the necessary population cannot be much reduced and our problem therefore remains serious. This problem is not obtaining the data so much as ensuring its reliability or comparability. Some social information is relatively objective and acceptable from a wide range of sources - number of children living, for instance - but much is dependent on community attitudes, the personality of the investigator, or his precise instructions. However, the difficulty with using large numbers lies less with the reliability of the social classification than with that of the health indicator.

It seems to follow. In the first place no absolute standard of this type of health is possible and any results we obtain will

therefore ill health resulting from mental reactions possesses virtually no specific distinguishing characteristics. This was implied in one of the initial assumptions, and practical experience teaches us that it is true. There are exceedingly few diseases in which it can be said that mental processes play no part, and in those where they are known to play a major part there is a blurring of boundaries and a merging of one type with another. Thus, we know of the infection-prone child and the surgery-prone woman who become ill with a great variety of conditions each of which is apparently specific to some micro-organism or some bodily locus. These individual conditions are apparently purely somatic, but an examination of their sequence and of the mentality of the patient reveals the psychosomatic element. On the other hand we know how anxiety neuroses convert into hysterical syndromes, how asthma may disappear if tuberculosis or psychosis supervenes, how a dermatitis may result in the disappearance of gastric symptoms; and we even know, uncomfortably aware that the bounds not only of disease but of individuality are becoming blurred, how the recovery of a mother's heart failure can induce a daughter's depression. It is clear, therefore, that we are not dealing with diseases whose distinguishing characteristics can be precisely laid down, or systems whose health can be gauged by any test comparable in objectivity to the change of color in a test tube or the counting of cells under the microscope. In consequence we may say that any assessment of this type of health (or ill-health) is going to contain a large measure of subjectivity, and that any partial sampling of it is going to present problems due to the easy conversion of some types of disturbance for others.

Since there is this absence of objective measures, as I state, three conclusions would seem to follow. In the first place no absolute standard of this type of health is possible and any results we obtain will

therefore have to be measured not against such a standard but against each other. In other words, we are dealing with a comparative science, not an absolute one. Secondly, this lack of uniform objective standards means that uniformity of subjective standards for a specific comparison is necessary, such uniformity being obtainable only from a single individual or close-working group. Thirdly, where such uniformity has not been ensured comparisons between different sets of data must have doubtful validity.

This last point may appear too negative. It may be argued that despite the inevitable borderline case a uniform system of psychiatric or psychosomatic diagnosis can exist and be applied by a group of specialists not in regular contact. To this I would ask the reader to try comparing the different results obtained when 'normal' or surgically ill persons have been assessed for mental health by psychiatrists or when recruitment boards assess the total health of candidates. Between different U.S. Forces Induction Centers the percentages of men rejected on psychiatric grounds varied as much as two-hundred fold, and even between as similar and well staffed centres as at Detroit and Chicago the figures were as different as 7.6% and 21.6%⁽⁵⁾. This was despite a relative uniformity of culture, medical training and administrative directives, and where these are less uniform even greater scatter must be expected. It is true that comparisons of data from different sources will remain necessary, and there are ways of reducing the influence of observer subjectivity and differences in indicators - for instance, one could use a large number of observers and hope that individual differences would cancel out on certain items, or one could examine trends while ignoring the rates themselves - but the preferable situation is certainly where uniformity of subjective criteria is effected, usually through having a single person take the key decisions. ... came immediately under my care⁽²⁾. However, the numbers which can be covered in this way are clearly

limited, and Bremer could only discuss a few variables, while his generalizations would probably not stand up to strict statistical testing. It is covered is usually limited to the numbers which one person or small group necessary to shorten the period of assessment and hence to do only a partial can assess over a period of time short enough to prevent much shift in sub-sampling of health, even though this may considerably decrease the reliability of our results. jective standards. Since, on the other hand, we desire a large population

for our multivariate analysis the method whereby these assessments are made There have been two main approaches to this step in the past. One are going to be of great importance. has been to specify certain conditions whose presence or absence must be ascer-

Considering the complexity of the disease manifestations and tained; the other has been to specify a certain time limit or observation processes involved the ideal medical approach to assessment of health (apart situation and leave to the assessor's subjective judgment what he shall look from being able to measure the positive instead of the negative aspects of at. The latter method approaches more closely the global one described above health; a thing we do not yet know how to do) is to know the person over a and, considering the complexity of the problem, might appear to be the better considerable period of time, physically, mentally and socially. The best solution. The trouble is that we possess virtually no one with a proper train-

expert to do this is undoubtedly the subject himself, and if we were con- ing for such work. Virtually always the assessor is a clinician whose training cerned with total health instead of that part which is mediated through is to operate within the framework of the clinical situation and who is accus-

mental processes probably the best solution would be simply to ask each in- tained to anchor his investigations to the patients' initial complaints or at tional how he feels, classing himself on a point scale. The separation of least to their presumed need of help. Outside of that framework he is quite mentally mediated from directly induced disorder, however, is a matter on lacking in social research training, and the observations which his clinical which the individual subject is not an expert, and very varied systems of

experience lead him to seek may possess quite a different meaning if the sub- separation are likely to occur except perhaps in a very close-knit culture. ject is not seeking aid. Observations made in this way therefore appear to The next best thing, then, is to have a single trained assessor in an ex-

leave much to chance, and this impression is supported when one examines clusive clinical relationship with the subjects and acquainted also with results so obtained. Almost always there are improbabilities in the data which their behaviour outside of the clinical situation. This was the method ac-

seem related to incompleteness or bias of information; differences in preva- tually used by Bremer in his North Norwegian community⁽¹⁾, and the excellence

between the investigator's own social class and others, for instance, or of that study, weakened only by a lack of clarity in terminology, indicates between the present and the past. It therefore seems preferable that one's that the approach has much to recommend it. (It was also the basis of Budd's

sampling of health should be done on a more systematic basis, with less area classical work, since he "was personally acquainted with every inhabitant of covered but with more even ascertainment. This does not mean that additional (the village); and being medical practitioner in almost exclusive possession information must be rejected, but rather that it must be held to one side and of the field, nearly everyone who fell ill came immediately under my

used "care" (2).) However, the numbers which can be covered in this way are clearly

limited, and Bremer could only discuss a few variables, while his generalizations would probably not stand up to strict statistical testing. It is necessary to shorten the period of assessment and hence to do only a partial sampling of health, even though this may considerably decrease the reliability of our results.

There have been two main approaches to this step in the past. One has been to specify certain conditions whose presence or absence must be ascertained; the other has been to specify a certain time limit or observation situation and leave to the assessor's subjective judgment what he shall look at. The latter method approaches more closely the global one described above and, considering the complexity of the problem, might appear to be the better solution. The trouble is that we possess virtually no one with a proper training for such work. Virtually always the assessor is a clinician whose training is to operate within the framework of the clinical situation and who is accustomed to anchor his investigations to the patients' initial complaints or at least to their presumed need of help. Outside of that framework he is quite lacking in social research training, and the observations which his clinical experience lead him to seek may possess quite a different meaning if the subject is not seeking aid. Observations made in this way therefore appear to leave much to chance, and this impression is supported when one examines results so obtained. Almost always there are improbabilities in the data which seem related to incompleteness or bias of information; differences in prevalence between the investigator's own social class and others, for instance, or between the present and the past. It therefore seems preferable that one's sampling of health should be done on a more systematic basis, with less area covered but with more even ascertainment. This does not mean that additional information must be rejected, but rather that it must be held to one side and used as a check on the main approach rather than included in the central analysis.

A more systematic approach involves specifying certain conditions whose presence or absence must be ascertained for every member of the population. These conditions could be quite simple and few if only we were sure that they fulfilled a single proviso, but it is in the fulfilling of this proviso that our next problem appears. The proviso is that such indicators will respond only to changes in the environment-mind-health relationship and not either to a direct environment-health change or to a health-health change. They must indicate what we want them to indicate, and not something else. Of course, it is not irrelevant to ask what environmental conditions act directly on health, or what environmental complexes lead to the substitution of one type of ill-health for another. Instances of such enquiry will be found in later chapters. But our main goal must be to ask what environmental complexes lead to an absolute increase or decrease in health however we may choose to define the latter. In this task the choice of indicators is mainly confused by the tendency of one disease to substitute for another, and our present knowledge does not really permit us to state definitely where this does not take place. However, in the conceptualisation of the question the use of dimensions, frequently referred to above but never defined, can help in clarifying the position.

A single dimension of health or of experience is presumed to be one in which change is possible only in terms of valence - more or less, higher or lower, etc. - and not in terms of immensurable types. Thus, if two or more conditions are present in such a way that we can say that health is better with one than with the other, or the same, then we can treat them as ^{on} one dimension, but if we decide that we cannot equate them in this way for our purposes then two or more dimensions must be presumed to be present. How we decide this will usually depend on the particular aspects being considered,

not on any intrinsic quality. For instance, one may regard cobbling and carpentry as separate dimensions in that being a better cobbler says nothing about carpentry, or one may regard them both as points on the same dimension of occupational prestige, or income, or skill. The number of dimensions one chooses to use in any analysis can range from one to infinity, but the key point about them is this: Along a single dimension change can take place only in a + or - direction, but with two dimensions change can take place so that the total valency is ++, --, or +-, the last constituting the type of change we wish to avoid in our measuring of total health.

The relevance of such dimensions for us here is that we seek a measure of the total valence of health but must, for economy's sake, use indicators which lie along some limited dimension. The question is which dimensions to choose. If movement along one dimension tends to be accompanied by the reverse movement along another, then we should not take an indicator on one of these dimensions unless we take one on the other as well. On the other hand, if two dimensions are related positively then sampling one will be almost as good as sampling both, and if they are randomly related then it does not matter (for this particular combination) whether we choose one or other or neither. It thus should be clear that there is value in thinking what dimensions of health subsume from whatever theory of health we hold, and then deciding (mostly in the absence of satisfactory evidence) which we consider to be negatively related, which positively, and which randomly. For instance, if one believes that mania and depression are usually different aspects of a single disorder and that the appearance of one or the other state is (partially) environmentally determined, then one would have to treat them as on separate dimensions, negatively linked. Hence one would not sample either suicide (as a partial indicator of depression) or police cases of manic behaviour alone, but would sample either both or

neither. However, if one regards them as aspects of the same disorder but does not believe the particular manifestation is environmentally determined, then they would be on positively linked dimensions or a single dimension, and by sampling one we are presumably sampling nearly the same population as for the other. Finally, if we do not regard them as associated at all it does not matter from this angle which we sample. Choice of dimension along which to seek indicators, therefore, will tend to be biased in accordance with one's theoretical approach (provided that approach has been thought out at all, which is not always the case). The other major bias in such a choice is from expediency.

In my own opinion there are three major dimensions of mentally mediated ill-health -- psychopathic, somatopathic and sociopathic. (By psychopathic I mean here, of course, the totality of mental disease, not the more conventional meaning of externalised disturbance for which I use the term sociopathic.) These are all so discrete in their manifestations that, at least in our present thinking, they need to be considered separately, and as there is evidence that they can, under certain circumstances, be negatively correlated it seems desirable that they should all be sampled. This is not quite the usual approach, since sociopathy is often considered by doctors to lie outside their field. Certainly its bounds are difficult to define, but there is ample evidence, in my opinion, of a complex relation between it and others. Moreover it seems contradictory to exclude it from any study which purports to deal with social medicine.

That initial selection of dimensions was easy, and it is not difficult to think of possible indicators for them. In addition I would add, as in a class by itself thanks to a mixture (in some cultures) of psychopathic and sociopathic qualities, suicide, which is also relatively easy to measure. The real problem comes when one considers what lesser dimensions are appropriate,

and whether they need to be sampled separately or may be grouped together. The main divisions of psychopathy are simple, the psychoses and neuroses. What relationship each holds to the other is more difficult to agree on.

The classical Freudian view is that they are virtually on the same dimension. Eysenck, on the other hand, has claimed to show that they are quite separate dimensions with an almost random relationship⁽³⁾. Probably it would be safer to use both, were it not that sampling the neuroses can be quite difficult and the problem of getting a balanced picture quite great; for instance, in many cultures the anxiety neurotic would be easily detected in interview, whereas the compulsive might not admit or show his condition until it was very severe. With the somatopathic there is the same problem. A clinician can, with fair consistency, decide whether some psychosomatic disease exists or not in an ordinary medical examination, and might even be able to scale its severity. If one seeks to avoid a full examination of each subject, however, the choice of a specific disease, symptom, or clinic visit as index offers serious difficulties in that different environmental conditions may lead to different diseases. I know of no authority which can tell me whether if I use an indicator for hypertension I also need to use one for peptic ulcers. Moreover, a logical analysis of dimensions in this way soon leads us to recognize that there are important dimensions for which no indicators currently exist at all. The absurdity of the above question on hypertension, for instance, tells us that body systems are not the true dimensions of psychosomatic disease. Better, could we only measure it, would be to divide such disease into those types substituting for a mental disturbance (asthma, possibly) and those incidental to the mental state (hypertension). Similarly with sociopathy. We can easily divide this into juvenile and adult, or into aggression against person and aggression against property, etc. But the dominant individual - parent, teacher, boss - who induces illness or

delinquency in another as a vicarious outlet for his own mental state is also sociopathic and probably constitutes as major a dimension of the total group as the openly aggressive. But we have no way of testing his presence. The use of dimensions, therefore, is not suggested as a way of simplifying matters or of devising a total abstract schema. Rather it is a concept which should be applied when we are tempted to use some indicator for another reason, so that we may see how appropriate such choice is to our basic theory, and whether it should be supplemented by another or not.

Other things being equal, the indicators we require are those which permit the extension of uniform subjective judgment over as wide a population as possible in a limited time. There are various devices which have been tried for this. One has been to ignore or avoid overlapping and to use a different judge for each main dimension, as is done in most mass medical examination procedures. It is efficient provided the indicators used are as mechanical as the process and hence generate no conflict in the assessor, but I strongly doubt whether it can be used if one of the indicators refers to mental symptoms and hence requires of the assessor empathy or sensitivity towards what the subject may be trying to communicate. In the latter circumstances frustration must arise from the insufficiency of contact with the personality of the subject and must lead either to assessor fatigue or to an abandonment of standards. In that method the assessor must see each person in the population; a second way is to use some screening device so that he sees only those in a certain category. Where the population is limited in some way, by age, education, culture, etc. then the efficiency of such a screen may be sufficiently high, especially if the 'cut-off' point is low and the assessor still sees a wide sample. I doubt, however, whether this method is valid where subjects come from a wide range of backgrounds so that phrases acquire different meanings, attitudes towards

excessively passive one, while child psychiatrists (who may comprise one's symptoms vary and basic skills are not the same.

assessors) may have the opposite concern. The second difficulty is that A third method is to allow the community or the subjects themselves to do the initial screening, and to have the assessor see only those leaders and conventional informants in a community tend to come from certain strata of society and to know quite little about certain other strata. Even who are brought to his notice. We have already remarked on one of the advantages and disadvantages of such an approach when we noted that the individual was the best expert on himself but not on the division between different types of health. There are many other disadvantages, perhaps more than with the other methods mentioned, but since this approach is perhaps the easiest to use and since it is in one form employed in the present study, I wish to consider it in more detail.

The two main variations of this method are to invite people to name those who fall into one's category, without any major expectation of treatment or care; or to consider only those who come, or are brought, with treatment or care in mind. The former approach is that frequently used in mental health surveys. One enquires from community leaders, teachers, doctors and the police not the assessor's definition of ill-health which is used. In this case the whom among their acquaintances they think might be mentally ill, and one also assessor's job is confined to categorizing cases within the broad class of informs the public through talks, etc., of one's goals in the hope that some the unhealthy, not of deciding himself who the unhealthy are. (We will see further individuals may identify themselves. The main difficulty here is that in a later chapter a quite successful example of this approach.) Secondary the community's criteria of ill-health of this type will be different from difficulties of this type of approach are that the community designation those of the assessor, and unless it has exceptionally unified norms there of 'crazy' may be a barrier to interviewing all persons so labelled and that may also be quite different sets of criteria within the community itself. one's definition of mentally mediated ill-health is likely to be too narrow. Which set of criteria is one using, therefore, and how is one ensuring that Presumably a quite different approach would be required to sample the psy- it is being applied? If it is the assessor's (as is usual) he will be able chromatic dimension.

to exclude cases who fall within the community definition of ill but outside

The second variation, that of using self-referrals in a therapeutic or care setting, includes all attempts at survey through the use of community do not recognize as ill? It is well known, for instance, that teachers tend to be more concerned about the excessively active child than about the

excessively passive one, while child psychiatrists (who may comprise one's assessors) may have the opposite concern. The second difficulty is that leaders and conventional informants in a community tend to come from certain strata of society and to know quite little about certain other strata. Even when this is not so their circles of acquaintances tend to be unrepresentative. For instance, one often finds in such surveys a high incidence of mental disturbance reported for school-age children but not for the pre- and post-school children, for the simple reason that there is no simple source of information on the latter. In a village this can be avoided and the criteria of mental illness may be satisfactorily uniform, but a single village is not going to provide the numbers we require and different villages may vary in their norms. In certain circumstances one can neutralise this last objection by averaging the result from many villages, as in a simple psychiatric census, but among the necessary circumstances are that the culture must be uniform with no strong stratification or variation in norms, and that it must be the popular, not the assessor's definition of ill-health which is used. In this case the assessor's job is confined to categorizing cases within the broad class of the unhealthy, not of deciding himself who the unhealthy are. (We will see in a later chapter a quite successful example of this approach.) Secondary difficulties of this type of approach are that the community designation of "crazy" may be a barrier to interviewing all persons so labelled and that one's definition of mentally mediated ill-health is likely to be too narrow. Presumably a quite different approach would be required to sample the psychosomatic dimension.

The second variation, that of using self-referrals in a therapeutic or care setting, includes all attempts at survey through the use of

hospital or clinic data. It is the most traditional survey method in medicine and for certain diseases and situations it is highly reliable. One does not usually need any more elaborate method for assessing the incidence of acute intussusception in a modern city, for instance, since if the cases do not come under the surgeon's knife they will come under the pathologist's. With mentally mediated disorders, however, it is much less satisfactory. Such disorders rarely present with the dramatic outburst which makes the call for help inevitable. They have a poor record of cure so that people may think doctors not worth while consulting on them, and the implications of treatment -- the mental pain and the surrender of certain types of gratification -- may dissuade people from seeking it. One must seriously question, therefore, what relation such self-referrals (or milieu referrals) bear to the universe of ill-health which they sample. Further, if hospital data are used one must question whether there is any constant relationship between such self-referral to a doctor and that doctor's referral to the recording clinic. I possess data on Singapore hospital admissions for certain psychosomatic diseases -- asthma, peptic ulcer, hypertension, etc. -- but I must confess that I could not say what I think they represent. Perhaps they represent the proportion of such diseases showing a certain degree of gravity, but I doubt it. General hospital admissions are a most unsatisfactory index of what I have called the somatopathic dimension. Possibly some finding might be arrived at by taking only those patients who get admitted with a certain, quite severe, degree of disablement from such diseases, but the judgment would be more than usually subjective here and the other two dimensions, of course, could not be approached at all through such material.

With mental disorders - the psychopathic dimension - the case may be different. Judged by amount of disturbance found mental hospital admissions are almost as unsatisfactory as general hospital ones, for we know that some patients arrive in an early phase or with few complaints while others come late or seriously disturbed and still others - as serious in psychiatric eyes as those in hospital - never seek hospitalisation at all. However, there is a different way of measuring psychopathy, ~~not~~ necessarily less valid or less useful than measurement by amount, and that is by centrality of disturbance. And along this dimension the point of hospitalisation ~~may~~ possess more consistency and meaning.

This dimension of centrality can be thought of in terms of Lewinian field theory and modern concepts of the Self,* but it derives equally from quite simple clinical observation. We know how patients sometimes dissociate themselves from a sick part, saying "I'm fine, but this stomach of mine is a nuisance". Similarly, we know how a disturbance of a particular mental function, memory, for instance, can in one patient lead to psychosis precisely because it is conceived as central or important by the patient or by his milieu, whereas in another patient the same amount of disturbance does not lead to psychosis because the function is not conceived as so important or central. Or, we may contrast male sexual dysfunction as a source of wider individual disturbance in Latin American and British cultures. These observations suggest to us that the self-concept of the "Self" is in some way kept separate from the rest of the person, and that the relation of that Self to different functions, or of these functions to each other, may vary in different people. Also, they suggest to us that the seriousness of some disturbance of mental function may be as much concerned with the location of the disturbance as of its amount. Such ideas are best visualised in Lewinian

* e.g. in Symond's The Ego and the Self

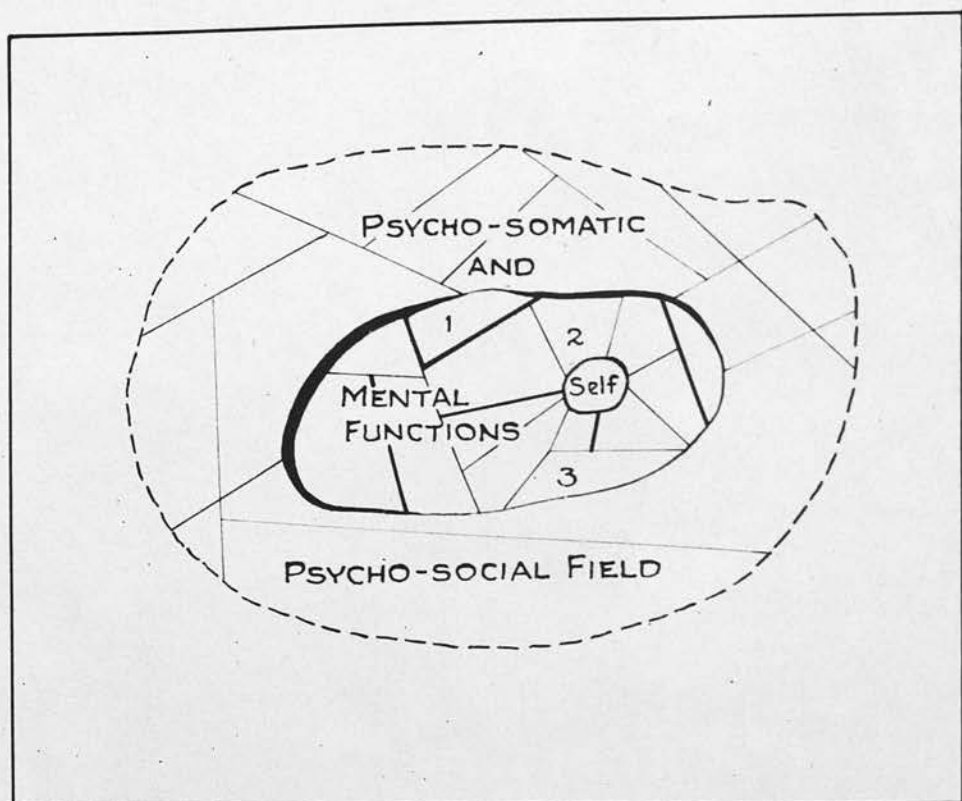


FIG. 0. Hypothetical model of the relation between the 'Self', Mental Functions, and the Psychological Field. The psychological field is not the unique possession of the individual but is shared or interpenetrated by the fields of others. Note that not all mental functions are in direct contact with the 'self' and that some boundaries are thicker than others. Hence a mental disturbance at 1 does not directly affect the 'self', whereas one at 2 does, and a disturbance at 3 is likely to affect other functions whereas one at 1 is considerably insulated.

terms or by thinking of the total psychological field as a cell, the mental functions as its nucleus, and the Self as the nucleolus. (See Fig.I) In this field different mental functions can be conceived as central or peripheral, as in contact with many other functions or with only one, as separated from contiguous areas by thick boundaries or by thin, and as migratory or stationary. Similarly, the Self can be conceived as thick walled or as thin, as in contact with almost all functions or only with some, as well buffered against events on the outside or vulnerable to such events either in general or in a particular sector. Generally, however, we conceive of the Self as being centrally situated, and when we speak of mental disorder being central we are in part thinking of its contiguity to or existence within the Self. On the outside are the body, the senses, and other extensions of the personality into the environment.

In this schema the act of seeking mental hospitalisation has particular meaning or position because of its special relation, in many cultures, to the Self. In most cultures two important characteristics or functions of one's Self-concept are belief in the Self's integrity and belief in its power over the rest of the mind. Consequently, the maintenance of such belief - existing independently of the reality of such integrity or power - indicates a persistence of normal or near normal functioning in that area and a breakdown in such beliefs must indicate that important functions of the Self are disturbed. There are, of course, variations in the rigidity of such beliefs and the value that is put on them, and by an extension of personality there is often a merging of individual integrity with primary group integrity, a substitution of the "We" for the "I". However, the seeking of psychiatric help outside one's primary milieu, and more importantly the resignation of self-determination which is implied, usually, in entering a mental hospital, do indicate a failure in belief about the Self's integrity and power, and of cultures and in spreading beyond these has demonstrated, at least during the first half of this century, the almost universal characteristic of being

this failure in the two beliefs does usually indicate a disturbance of the Self's functions. Alternatively, a neglect of or refusal to seek such outside help in the presence of mental disturbance may be taken as indicating that these functions of the Self are not yet substantially affected. We may say, therefore, that the seeking of outside psychiatric help indicates that the centre of the personality is feeling itself threatened, independently of which functions may be central and which peripheral and independently also of how much disturbance there is, while the seeking or acceptance of mental hospitalisation indicates the abdication (and hence disturbance) of an important central function by either the individual or his milieu. In this way such acts have key positions along our new dimension, and the cases which are disturbed but never seek such help (as discovered during psychiatric surveys) hold a quite different position since the integrity of certain central functions, often of the "We" rather than of the "I", is much more complete.

Seen in this way, then, mental hospital or clinic data may possess specific meaning for us; but there are a number of limiting conditions. Cross-culturally we must recognize that outside psychiatric help may refer not only to orthodox psychiatry, but to shamanistic practices, simple magic, prayer meetings, etc. Also, self-referral of milieu-referral will take on a different meaning if such referral is not outside the primary milieu, as may be the case where the psychiatric helper has a more general role - the priest in the confessional, the psychoanalyst in certain upper-class American circles, or the grandmother witch in some African tribes. (Where such functions exist within the primary milieu one can deduce certain points about the concept of Self-integrity in these cultures.) Most such alternatives, however, refer to initial psychiatric help rather than to psychiatric hospitalisation. The mental hospital is largely the product of a limited group of cultures and in spreading beyond these has demonstrated, at least during the first half of this century, the almost universal characteristic of being

an extrusion from normal society in which the customary functions and attributes of personality are laid aside.* To that extent the act of seeking mental hospitalization generally represents today an extrusion or self-extrusion of the individual from normal social functioning, almost irrespective of culture, although such characteristic is not an inevitable concomitant of the hospital treatment of the mentally ill and may in the future - as day-hospitals and the open-door movement betoken - disappear. Hence it is broadly true to say that, excluding the avant-garde, any mental hospital maintaining the type of data we are likely to use will have the same sort of relationship to centrality of mental disturbance. The fact that many referrals are made by the milieu rather than by the individual need not disturb this concept, for if a patient's primary milieu rejects him in this specific way or abdicates its power to help him, then this is a disturbance of the "We" affecting the very centre of his personality, and if he acts in such a way as to require wider society's intervention then we may take such act as a call for help in itself. This question of milieu referral is of less importance to us than problems relating to accessibility and admission policy.

The key point in our dimension is the act of seeking or accepting mental hospitalization, but hospital data will usually refer to the act of admitting him, and the two may not coincide. For such equation to be true the hospital needs to be accessible, both spacially and socially; it needs to be able to admit all who request such admission; and the public must know of its existence and function. Further, our study should cover all hospitals or hospital-equivalents which the population might use if we are to avoid distortion of our sample, and in mixed or transitional cultures this might include not only nursing homes but temples or a witch-doctor's compound. Of these conditions the least commonly present is the ability, or willingness,

* Kennard says, for instance, that "In many respects becoming a patient involves a reversal of all role obligations previously assimilated." (4)

of hospitals to admit all who seek admission. Most mental hospitals have fewer beds than there are applicants for them, and hence it is desirable that our assessor should operate not on an existing hospital population - on whom some distorting admission policy may have already applied - but at the point of admission. If this is not the case, then any study using such material should not only specify those conditions surrounding admission which might introduce bias or uneven selection of the hospitalised but should emphasize the distortions which may exist. Most commitment legislation introduces serious distortion by insisting that certain types of patient be given priority, by insisting on admission irrespective of the admitting doctor's opinion, or by making self-referral difficult, but where such legislation is long established the society may have invented its own techniques for circumventing such bias. For instance, the suicidal gesture may have become a culturally recognised method of obtaining attention of this type.

Self-referral to a mental hospital, then, constitutes a possible indicator^{of} psychopathology along the dimension of centrality, whether used by itself or as a screening device beyond which the subjective judgment of our assessor may be applied. The question is whether position along this dimension is an adequate indicator of position on the broader psychopathic dimension, or whether it needs to be supplemented by measurement in another direction. The main competing dimension is amount of disturbance, and fortunately there is not evidence for any negative correlation between them. On the contrary there is evidence, as one would expect theoretically, for a positive relation. The answer, then, is that measurement along one dimension would be a rough guide to both, but that measurement along both is preferable, where possible. However, it does not seem necessary, if we take mental hospitalisation as one indicator, to return to the total population to measure the other; one could gain some correction of one's picture even by measuring

amount of disturbance in those admitted, which would not have been true if the relation had been a negative or random one. Of course, such measurements or indicators say virtually nothing about the two other main dimensions of mentally mediated ill-health, the somatopathic and sociopathic, although under certain circumstances the latter may also be touched on. There are many other theoretical and practical problems to be dealt with in designing an ideal study of environmental factors in mentally-mediated ill-health, but the present study was by no means intended as a general model, and the time has come to state in what way the following chapters attempt or do not attempt to meet the theoretical demands which we have been considering.

The main approach used was a two-part one, the first consisting of the study of total health through a clinical relationship with a small group, the second a study of certain indicators of ill-health in a large population. The first part entailed keeping clinical records on a group of Singapore and Malayan students, to whom I was usually the sole physician and who had undergone a moderate medical and psychological examination initially, over a period of three or more years. Auxiliary data on behaviour and academic attainments, etc., were also kept, and by correlating such findings with initial material on social background and with certain psychological tests it is hoped to arrive at a few answers to some of the questions raised earlier, questions on the relationship between total health and certain aspects of social environment, and between total health and certain hypothesized indicators of health. However, the small numbers and highly selected nature of this group make the multivariate analysis which was suggested as desirable, impossible, and the second part of the study was therefore undertaken concurrently to permit that wider approach. The student studies will be reported on elsewhere, but occasional reference will be made to some findings here, where they seem particularly relevant.

The second part of the study took as its main concern the total population of Singapore during the years 1950-54, about whom a considerable amount of social and cultural material was available, and five main indicators were used as a measure of its mentally-mediated ill-health. These indicators were suicide, mental hospitalisation, hospitalisation for certain psychosomatic diseases, juvenile crime, and adult crime, thus covering in some fashion or another what I consider to be the chief dimensions. The psychosomatic material, for reasons I have explained, is of very doubtful value, but as far as examined it seems to correlate positively rather than negatively with the other indicators. The adult crime material is also of doubtful value since its source was of necessity newspapers instead of police files. Also, the amount of crime not coming before the courts was known to be quite high at this time so that the relation of such court data to the totality of antisocial behaviour is difficult to determine. On juvenile crime more reliable data were available, at least if taken as indicating a breakdown of primary group behaviour rather than of individual, and this also will be reported on elsewhere. The study of it is the environmental aspects of the culture which concern us, not the more commonly described intrinsic aspects or the cultural ideal. The first point, using not only the fact of admission but also certain diagnostic needs emphasizing because there is a definite temptation to derive the individual categories as indicators, but mention of the other dimensions will be made and some tentative discussion will be offered of total ill-health in the conclusions. Throughout, the tendency has been to use common demographic or popular categories of social classification rather than creating newer concepts, and in place of a full multivariate analysis I have preferred to check for independence of variables and present only those where such independence is rate, irrespective of whether suicide cases came from highly patriarchal families or not; that the more patriarchal the culture the higher the suicide rate, irrespective of whether suicide cases came from highly patriarchal families or not; that the more highly patriarchal a family the more likely some hidden relationship confusing the picture is greater. It was to have suicides in it, irrespective of whether the total culture was

The choice of Singapore for such a study was determined largely by the presence there of three (or four, if one counts the European) major cultures, each affecting a substantial population and considerably distinguishable from the others. The reason why this was thought so important is that through differences in culture we can reach, tentatively, variations in factors such as child-rearing patterns, emotional relationships and family interaction. Such factors are of considerable importance in the development of mental disorder but cannot, collectively, be compared in any other way. For instance, we would be hard put to classify the total population of Scotland according to pattern of parental disciplining even though clear differences are known to occur, whereas in Singapore such a broad classification is readymade through the association of a different pattern with each culture. However, there are two important provisos in the use of culture as a variable. In the first place we must distinguish clearly between the collective average and the individual experience; in the second we must recognise that for analysis it is the environmental aspects of the culture which concern us, not the more commonly described intrinsic aspects or the cultural ideal. The first point needs emphasizing because there is a definite temptation to derive the individual characteristic from the global (or vice versa) and, more subtly, to avoid specifying which one is dealing with. Thus, one might claim (an imaginary illustration) that patriarchy is positively correlated with suicide in old age, but consideration leads us to realize that this could have four meanings. It could mean:^{a)} that the more patriarchal the culture the higher the suicide rate, irrespective of whether suicide cases came from highly patriarchal families or not;^{b)} that the more highly patriarchal a family the more likely it was to have suicides in it, irrespective of whether the total culture was

highly patriarchal or not;^{c)} that suicides tended to occur more often when or group experience that one is dealing with, for in one case it may be d) the culture was patriarchal but the individual's experience was not; or that conformity to the norm is the more traumatic while in another it may be non-conformity, but with cultural variables it is particularly desirable to keep was. In general, of course, there will be a strong positive correlation between individual experience and group mean and it will therefore often be tempting to deduce the one from the other, but the size and nature of one's sample must here be taken into account. If one is recording a condition occurring in ten per cent or more of the population, then it seems reasonable to assume that one's sample has shared in the broad cultural experiences of the whole group; but if one's sample is only 0.1% and is deviant almost by definition, as is the case with patients admitted to a mental hospital, then assumption of normality of cultural experience becomes quite questionable. One should if possible, therefore, test out such an assumption by exploring the experiential background of a sample of the patients, but if this is not possible then the most one can do, I think, is to offer hypotheses derived from the assumption and seek secondary support for them, perhaps by testing their predictive value. Of course, abnormality of individual experience does not necessarily mean absence of cultural influence at that point. It may or it may not. For instance, if individual toilet training has been casual where the cultural tradition is very strict then it is highly unlikely that the individual will absorb the obsessive attitudes towards cleanliness which his neighbours exhibit. But if he grows up in a family where the grandparents are not respected he may still absorb a strong respect for elders from his wider society. With cultural matters the deduction of individual experience from group means is therefore less satisfactory than with certain other types of environmental variable. In all cases it is useful to consider whether it is individual

or group experience that one is dealing with, for in one case it may be that conformity to the norm is the more traumatic while in another it may be non-conformity, but with cultural variables it is particularly desirable to keep the two separate.

The second proviso, about which aspects of culture concern us, is a practical one. Since our indicator cases may be deviants from their culture we cannot assume that they have absorbed those aspects of a culture which exist within the mind and hence we cannot use such aspects as a base for our study. We need to know not the expected personal norm, but the way in which their social environment acts on people in its attempt to produce that norm. The aspect of culture that concerns us may therefore be defined as the system of traditionally maintained behavioural patterns by which individuals of that culture are surrounded from birth onwards; and we need to know specifically what that behavioural norm is, not merely what it should be or what its aims are, for we are as much interested in the unintentional accompaniments and by-products as in the main line. The practical difficulty is that such descriptions are still quite difficult to find in anthropological literature, and our search is made even more difficult by the fact that the influences with which we are most concerned are often transmitted not so much by precept and example as by symbols, intonations and gestures whose interpretation may defeat both the participants and the ordinary anthropologist, unless he has special training for the purpose. Where we cannot find such descriptions we may once more have to try and deduce the environmental event from the reported psychological state or from some less concrete evidence, but as usual this will be rather unsatisfactory and the goal should always be the concrete, though not necessarily uninterpreted, behavioural pattern even when we have to hunt much further to find it or arrange specifically for it to be recorded.

tuberculosis the greatest evil.

Chapter I

Some aspects of its history are relevant to an understanding of its present social structure.

Singapore: Source of Principal Data

and 14th centuries its special geographic location had already led to it being a thriving mercantile entrepot, but it was destroyed by piracy and war, Ceylon, Burma, Thailand, Malaya, Indonesia, the former Indochina, Borneo, the Philippines, and South China, with their minor addenda. Two land masses, two oceans, and an intervening land chain. At the hub of this complex lies Singapore, with population elements from most of the countries around it and clear allegiance to none of them. It is therefore the most appropriate point to start outstripped all its neighbors in volume of trade. Raffles' planning and foresight were important. He gave each people its own area (see Fig. XIV) and allowed it to retain its own nationality, customs, and civil law, but he also imposed across these divisions unified town planning, unified judiciary and moderate rainfall throughout the year, shade temperatures rarely rising above 90° F or falling below 70°, and with a moderately high humidity tempered by constant breezes. At the time of the present study its population comprised approximately 880,000 Chinese, 130,000 Malaysians, 82,000 Indians, 17,000 Indian, European & Buginese (Macassarese, from Calibes) - had its own outposts of traders with their secondary services wherein each trading group - Chinese, Europeans, 11,000 Eurasians, and 11,000 Arabs, Thai, etc. Three-quarters of this population were urban, with densities up to 1,000 per acre in some blocks, greatly outweighed the few instances of inter-group competition. The great but ample surrounding space remained, with the rural density averaging only ten per acre. (Fig. II) A high birth rate of 48 (crude) and low mortality rate of 10, combined with immigration, gave it an abnormal age pyramid, with 40% of special rights as natives; none were specially imbued with a desire to proselytize; and fortunately their home governments rarely sought to use them as a base for cultural domination. Well into the present century, therefore, the colony remained an aggregate of different cultures, less interested in politics than in making money, not forced into intimate contact or conflict, continuously reinforced by renewal from their homelands, and unusually tolerant of each other. Acculturation between them scarcely occurred until the Christian

Singapore is an island of 225 square miles lying 1° North of the equator. Its climate is mixed, with no definite seasons, usually no monsoon, moderate rainfall throughout the year, shade temperatures rarely rising above 90° F or falling below 70°, and with a moderately high humidity tempered by constant breezes. At the time of the present study its population comprised approximately 880,000 Chinese, 130,000 Malaysians, 82,000 Indians, 17,000 Indian, European & Buginese (Macassarese, from Calibes) - had its own outposts of traders with their secondary services wherein each trading group - Chinese, Europeans, 11,000 Eurasians, and 11,000 Arabs, Thai, etc. Three-quarters of this population were urban, with densities up to 1,000 per acre in some blocks, greatly outweighed the few instances of inter-group competition. The great but ample surrounding space remained, with the rural density averaging only ten per acre. (Fig. II) A high birth rate of 48 (crude) and low mortality rate of 10, combined with immigration, gave it an abnormal age pyramid, with 40% of special rights as natives; none were specially imbued with a desire to proselytize; and fortunately their home governments rarely sought to use them as a base for cultural domination. Well into the present century, therefore, the colony remained an aggregate of different cultures, less interested in politics than in making money, not forced into intimate contact or conflict, continuously reinforced by renewal from their homelands, and unusually tolerant of each other. Acculturation between them scarcely occurred until the Christian

tuberculosis the greatest evil.⁽³⁾

Some aspects of its history are relevant to an understanding of its present society and relationship to neighboring peoples. In the 13th and 14th centuries its special geographic location had already led to it being a thriving mercantile entrepôt, but it was destroyed by piracy and war, and its modern history begins in 1819 with Stamford Raffles' decision, against his government's disapproval, to establish a free port there under British control. The advantages of this decision, once made public, were so obvious that the population rose from 200 to 10,000 in five years and the port soon outstripped all its neighbors in volume of trade. Raffles' planning and foresight were important. He gave each people its own area (see Fig. XXIV) and allowed it to retain its own nationality, customs, and civil law: but he also imposed across these divisions unified town planning, unified judiciary and police, and unified trading regulations, all dominated by the British, of course, but regulated through interracial consultations. It was thus a colony of traders with their secondary services wherein each trading group - Chinese, Indian, European & Buginese (Macassarese, from Celibes) - had its own outlets and special contacts, and wherein the advantages of inter-group cooperation greatly outweighed the few instances of inter-group competition. The great majority of the population looked on themselves as visitors, still belonging to their home country to which they expected to return. None could claim special rights as natives; none were specially imbued with a desire to proselytise; and fortunately their home governments rarely sought to use them as a base for cultural domination. Well into the present century, therefore, the colony remained an aggregate of different culture, less interested in politics than in making money, not forced into intimate contact or conflict, continuously reinforced by renewal from their homelands, and unusually tolerant of each other. Acculturation between them scarcely occurred until the Christian

The history summarized here is derived from research in the Singapore archives.

mission schools began to make a real impact in the 1930's and the growing up of a local-born, middle-class group resulted in some joint agitation for self-government.

The Second World War brought widespread disease, near-famine, and some interracial violence in the interregnum at the beginning and end of the Japanese rule. These experiences had a marked effect on the survivors, and for a time the desire to avoid strife, to have good law and order even when these were externally imposed, and to regain economic security, dominated public thinking, while ideas of self-government were held in abeyance. The returning British, however, brought many changes, all tending to emphasize citizenship in place of race, clan or family. Government schools, government housing projects, and government social welfare assistance tended to take over with more efficiency and with disregard for sectional interests functions which had previously been run largely by communal groups. By 1950, therefore, the main cultures were still considerably separate from, and had acquired renewed tolerance for, each other, but an increasing proportion of the population was local born, sometimes politically estranged from their parents' homeland, and an increasing number were being affected by overriding government innovations. One other point is that at this time both Singapore and its Malayan hinterland were prosperous from the high world price of rubber and tin.

The early psychiatric history of Singapore is quite remarkable considering its location and the mixed nature of its populace.* When it was founded chronic psychotics were either sent to Calcutta, if British or Indian, or locked up in the town jail if of other origin. The murder of one patient by another, however, so shocked the town council that in 1841, when the population was only 35,000 and the colony 22 years old, we find recorded that "The Overseer of Public Works is directed to lose no time in commencing the

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The history summarized here is derived from research in the Singapore archives.

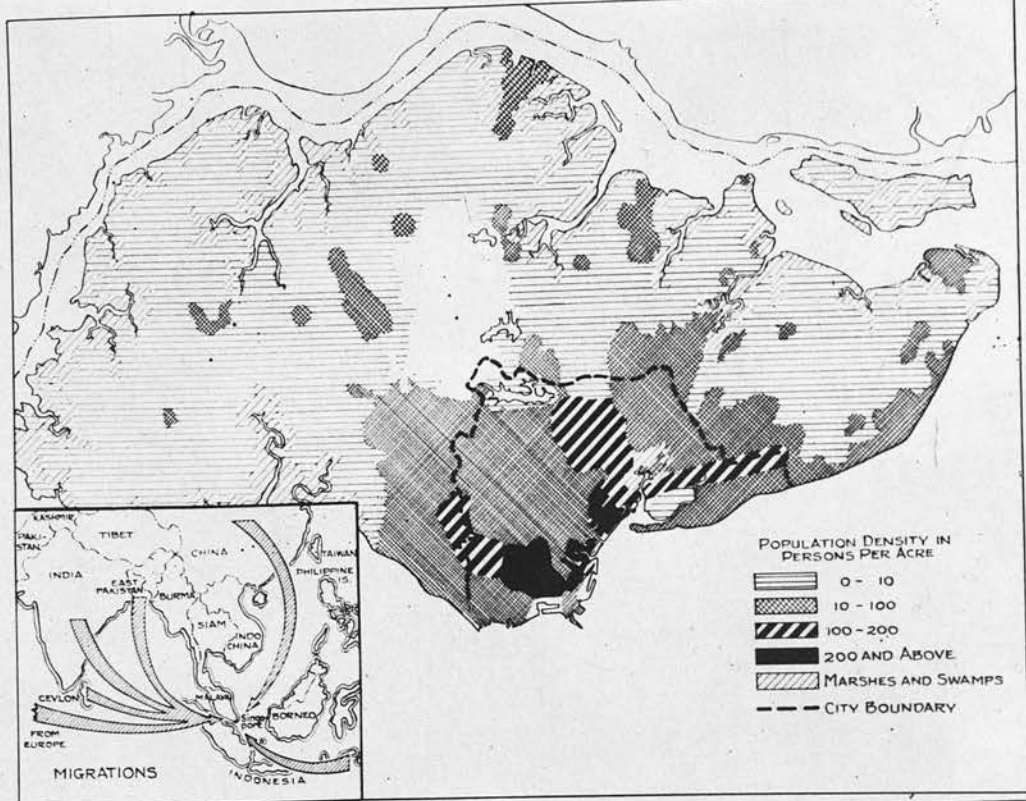


FIG. I. Map of Singapore Island showing population densities and City Boundary, with inset indicating principal migratory streams.

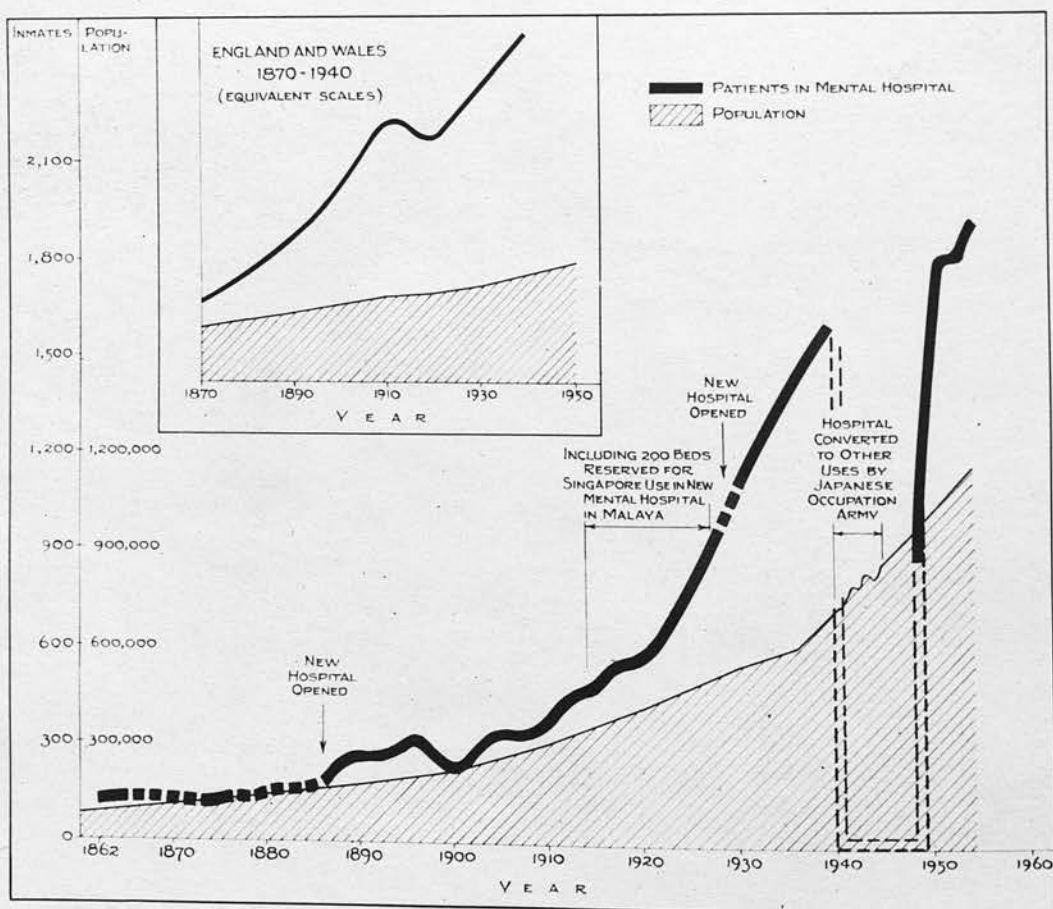


FIG. II. Admissions to Singapore Mental Hospital from 1862 to 1954, showing relationship to increasing population size; with inset indicating comparable levels for England and Wales.

erection of an Insane Hospital, according to a plan submitted by Dr. Montgomery, the expense not to exceed \$775.10." By 1842 the hospital was ready and occupied, with a good exercise yard, a pleasant shade, and diversional therapy in the form of basket weaving, so that in general the care and accommodation given to the insanes was better than that which other kinds of patient enjoyed. This was only three years later than the opening of the first city mental hospitals in New York and Boston, and within a year of Dorothea Dix's protest to the Massachusetts' legislature about the treatment there of mental patients by "cages, closets, cellars, stalls, pens, chained, naked, beaten with rods and lashed into obedience."

There was no question of the hospital being for police cases only, or being shunned by the majority of the public. Within twenty years it had to be enlarged twice and then rebuilt in another site, so great was the use made of it. By 1860, when the population was still only about 82,000, the number of residents was 100 and the number of annual admissions much higher, thus putting Singapore's psychiatric bed ratio ahead of the U.S.A. and about on a par with Britain at this time. The hospital still did not have its own doctor, and the 89% 'cure' rate given in the 1861 report suggests that the visiting physicians may have been rather casual in their observations,* but at least they were sympathetic. The patients were still given occupational diversion in the open, not locked all day in wards or cells, and one reads that "restraint is seldom had recourse to, kindness and firmness added to a suitable regime of their wide grounds for diversion and employment. As Fig. III shows, its population shot up and there is once again ample evidence that the public were willing to use it when it showed an ability to accept them. Only twelve years later, however, the whole service was out to the ground as the Japanese occupied the island and turned the hospital to other uses. For four years there

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* There was a marked change in discharge rates in many countries about the 1870's, a change which we tend to assume came from some change in medical viewpoint. However, the apparent ease of recovery of cases in the earlier half of the 19th century is something which might merit closer investigation.

legislature acquired this humanitarian approach.

By 1880 the first full-time psychiatrist was introduced and given yet another new hospital, built on the cottage plan with a majority of single bedrooms, and he spent the rest of a long and active life in that service. However, for reasons that are not wholly clear, conditions in the hospital deteriorated considerably. A partial cause was a succession of outbreaks of cholera, typhoid and beri-beri both in the hospital and in the city, but when these were finally mastered death-rates within the hospital remained high, live discharges were quite few, and recovery from mental disturbance became relatively rare. One suspects that just as the increase of the city's population outgrew its organisational structure at this time, so the increase in the hospital population made the former pattern of care inefficient socially even when the proportion of staff to patients was maintained. It became the typical overcrowded asylum of its time, the Town Council and Health Administration lost interest, and its superintendent becomes as much concerned with trying to dispose of patients elsewhere - repatriation to China, for instance - as with trying to treat them. This state of affairs remained from about 1910 until 1928.

In the latter year the present buildings were at last opened, a series of single-story pavilions in large and most attractive grounds not too distant from the city. The service leapt ahead again, admitting all who sought care, improving discharge rates, becoming more modern in treatment, and using its wide grounds for diversion and employment. As Fig.III shows, its population shot up and there is once again ample evidence that the public were willing to use it when it showed an ability to accept them. Only twelve years later, however, the whole service was cut to the ground as the Japanese occupied the island and turned the hospital to other uses. For four years there was no residential psychiatric care of any kind in Singapore (outside of the

P.O.W. prison) and a marked increase of disease and starvation combined with very few medical services whatever must have led to many former psychiatric patients dying. However, it also forced families back on their own resources - I have many autobiographies telling how a family went together to grow its own food, or collected together with relatives and became more mutually supportive - and this resourcefulness presumably also applied in the case of the mentally sick. Hence when the service re-opened in 1946 relatively few former patients returned and the admission rate of new cases was for several years considerably below the pre-war level. This was not because the hospital could not accept cases, for by 1947 it was announced that it possessed its full potential capacity of 1,800, and staff had also returned, but must rather have been because of some change either in the incidence of mental disorder, or in the attitude of the people towards the hospital and the type of patient it was intended to serve. Since this is part of the social background to our subject, we must briefly consider what the attitude of the public to such cases, and to the hospital, was.

Social attitudes to psychiatric care in Asia have until recently paralleled those in pre-19th century Europe. If the condition was diagnosed as a disorder of one of the humours (wind, bile, phlegm) then the medical treatment appropriate to that humour would be given. If it were considered a case of demonic possession, then exorcism would be used. But if neither of these diagnoses seemed correct, and neither treatment worked, then society became hostile, the family withdrew most of the consideration due to one of its members, and the alien spirit would be persecuted indefinitely until it departed.

"(If treatment did not work) the patient should be thrown into a well without water and let to remain hungry there, or he should be tied with his face upwards to the sun, or he should be branded with a glowing iron, or though not so easily in its custodial. As an institution offering possible cure it could be classed together with the temples, shamans, itinerant

he should be scalded with boiling oil or water, or should be chastised with lashes, or should be left in a dark and empty place, or should be frightened with serpents whose poison fang had been removed, or with tamed lions or elephants, or the death of a relative should be announced to him, or the king's servants should take him into the open air and threaten him with death." (9)

This summary of classical Indian teaching could be paralleled from China or Japan. The picture it suggests is somewhat worse than Dorothea Dix's Massachusetts or Pinel's Europe but the difference is one of degree rather than of kind and in Asia, as in Europe, there were also the occasional examples of a more humanitarian approach. Sometimes a shrine or monastery would acquire a reputation for cures - the well at Iwakura near Kyoto, for instance - and might build up a residential clientele, again just as in Europe. However, to a much greater degree than in Europe care and responsibility remained with the family, and family heads might be punished for any harm which an insane member did. (8) Hence it was frequently a relative who applied the types of mistreatment mentioned above (among the Malaysians I suspect that responsibility fell more often on the village) and from the fact that for so long no more humanitarian teachings developed we might deduce something about the darker side of intra-family relationships in these cultures. However, before the cellar and the rope were had recourse to, family loyalty normally demanded that everything possible be done to seek an immediate cure. This would certainly be the case if the patient were an elder or a child, less certainly if it were a junior adult or a new daughter-in-law. And if the case remained insane the family would take as natural, not only as demanded by society, that they should continue to feed and to guard it themselves.

Onto such traditions the European mental hospital which immigrants found in Singapore could be grafted relatively easily in its therapeutic role, though not so easily in its custodial. As an institution offering possible cure it could be classed together with the temples, shamans, itinerant

magicians and practitioners of various medical traditions they were accustomed to in the past, and its foreignness was no particular disadvantage since in dealing with something mysterious and unresponsive men often credit to other cultures greater powers than they know to exist in their own. Of course, it would not necessarily be the first type of aid a family would have recourse to, and its help was less likely to be sought for cases in which cure was not believed possible and only care and guarding remained. Hence acute transient disturbances were less likely than in Europe to reach it before they recovered spontaneously, unless they presented a custodial problem, and at the other extreme certain troubles of senescence, being regarded as natural phenomena of aging and not as curable diseases, might likewise be brought to it less frequently. The significance of this latter point has been touched on in the introduction, my own opinion being that the acceptance of such phenomena as normal by the immediate milieu deprives them of most of their psychotic quality. The significance of the former point is greater, and as we will see probably accounts for some of the features of the post-war admissions pattern.

In the post-war period a knowledge of the elementary values of Western medicine can be assumed for virtually the whole population. Thanks largely to the sulphonamides and penicillin demands for this type of general medical care grew very rapidly. In 1947 the medical authorities were remarking that there was already greater pressure on the hospitals than ever before, and by 1954 the government hospitals alone had more than 1,250,000 patient visits, more than one per head of the population,⁽³⁾ while private western trained practitioners did good business with even the poorest classes. There is no question, therefore, of the public being ignorant of the possibility of western style treatment. On the other hand mental hospitalisation still, until 1953, usually involved the unpleasantness of certification so that we would expect families to

* There were only 600 non-governmental hospital beds as compared with 5,000 government ones. (3)

seek more simple forms of help first, if they could find them. These forms were as follows: use of counter magic is widely believed in. (12) Hence it is probable. Trained psychiatrists in private practice did not exist, either in Singapore or in Malaya, and I know of no untrained ones offering residential treatment, although one or two physicians tended to specialize in the ambulatory care of upper-class neurosis. No private or semi-private hospitals or nursing homes knowingly accepted psychotic patients, and as the average standard of these private hospitals was poorer than that of the government one they tended to get the cases whom the latter had refused, as too chronic, or had discharged.* Chinese and Indian families still sought help by prayer before a family altar or in the temples, or would pay priests to seek supernatural intervention, perhaps arranging for the patient to spend a night in the temple or for exorcistic rites to be held at his bed-side or at the spot where he was supposed to have acquired the afflicting spirit. (For instance, I had a case of neurosis which was precipitated by the sight of a suicide hanging from a tree, and his mother, besides taking him to several temples, arranged for a service to be held at that tree.) But there was no temple, to my knowledge, which offered more long-term treatment or residential care, and those which permitted their confines to be used by the destitute customarily sent such cases to the government hospital if they fell sick, as the mental hospital admissions records show. Ayurvedic and traditional Chinese medical practitioners remained and would be consulted concurrently with the priests and perhaps a western-trained doctor, but their teachings gave relatively little place to the mental disorders (9, 23) and offered no scope for specialisation in that direction. For the Malays, and those who had acquired some knowledge of their beliefs, the Bomoh, a type of shaman, was a much more important source of assistance. (21) To the Malays even today mental and psychosomatic dis-

* There were only 600 non-governmental hospital beds as compared with 5,000 government ones. (3)

orders - even fevers - are frequently attributed to witchcraft and in combatting them the use of counter-magic is widely believed in.⁽¹²⁾ Hence it is probable that many Malay mental disturbances were first referred to a member of the family who knew counter-spells, and then to a Bomoh, before being brought to the hospital. Because of the setting of belief, and a battery of the usual psychotherapeutic shamanistic techniques, there is no doubt that these Bomohs were often successful with minor conditions, but I have a number of records of them failing to cure more serious cases and no record of them succeeding with such a case. Also, no Bomoh to my knowledge offered long-term residential care at a shrine, such as we know to be the case in Africa. None of these alternatives, therefore, could offer the equivalent of hospitalisation with the removal of the patient from his primary milieu, and since western medical facilities were so widely known it seems highly probable that a case requiring hospitalisation - either because of its gravity or because of rejection by the milieu - would eventually seek it. This assumption is supported by such facts as I have been able to gather. In the family histories of my students - who came from all classes and ethnic groups - there were a number of instances of psychotic relatives being cared for within the home, but in all these cases hospitalisation had previously taken place and the family had resumed responsibility only after discharge, relapse, and loss of belief in the further curative powers of the hospital. (Most of these cases were in Malaya, not Singapore.) Next, almoners and other social workers averred, when questioned, that there was in general no resistance to mental hospitalisation among the different ethnic groups or among the main social classes, the only exception being the semi-westernised section of the middle and upper class. Further, enquiry among field workers visiting households during the several different types of social survey which took place between 1950 and 1955, including one survey

of old people, did not bring me news of any case of an obviously insane person in a private house. That is not to say, of course, that such cases did not occur. I know them to have existed, relatives of rich, semi-westernised families hidden away with a servant in a suburban villa. But the surveys suggest that this was uncommon. Finally, my own experience of advising on mental hospitalisation showed me that I could usually be less circumspect than I would have to be with a western population although, again, the westernised upper middle class were the most difficult.

These observations suggest that the hospital should in the post-war years have been seeing the great majority of fresh cases that needed mental hospitalisation, although older cases for whom the hospital's curative powers had been tried with unsatisfactory results might well not reappear. But the fact remains that admissions in the late 1940s were surprisingly low, and, as Table 1 shows, increased steadily until 1954, when my data stopped. This variation is not accountable by changes in the total population, nor by the shift in legislation which permitted an easier admission policy after 1952, nor by changes in police activity, nor by any change in medical policy. It was a variation which occurred in all ethnic groups and at all ages but, as Fig. III shows, not equally in all diagnostic groups. From that figure it is clear that the main temporal change occurred in the affective psychoses and, though unimportantly, in the neuroses. It is possible that some of the increase in the affective group comprises cases which would previously have been labelled toxic or confusional states, (see below p.23) but the main point is that whichever label is attached, we see that the increase - or conversely the deficit of cases in the earlier post-war years - consisted mainly of conditions which are liable to early spontaneous remission. Hence much of the difference between the rates of the 1940s and those of the 1950s could be accounted for either if the public had come to recognise during

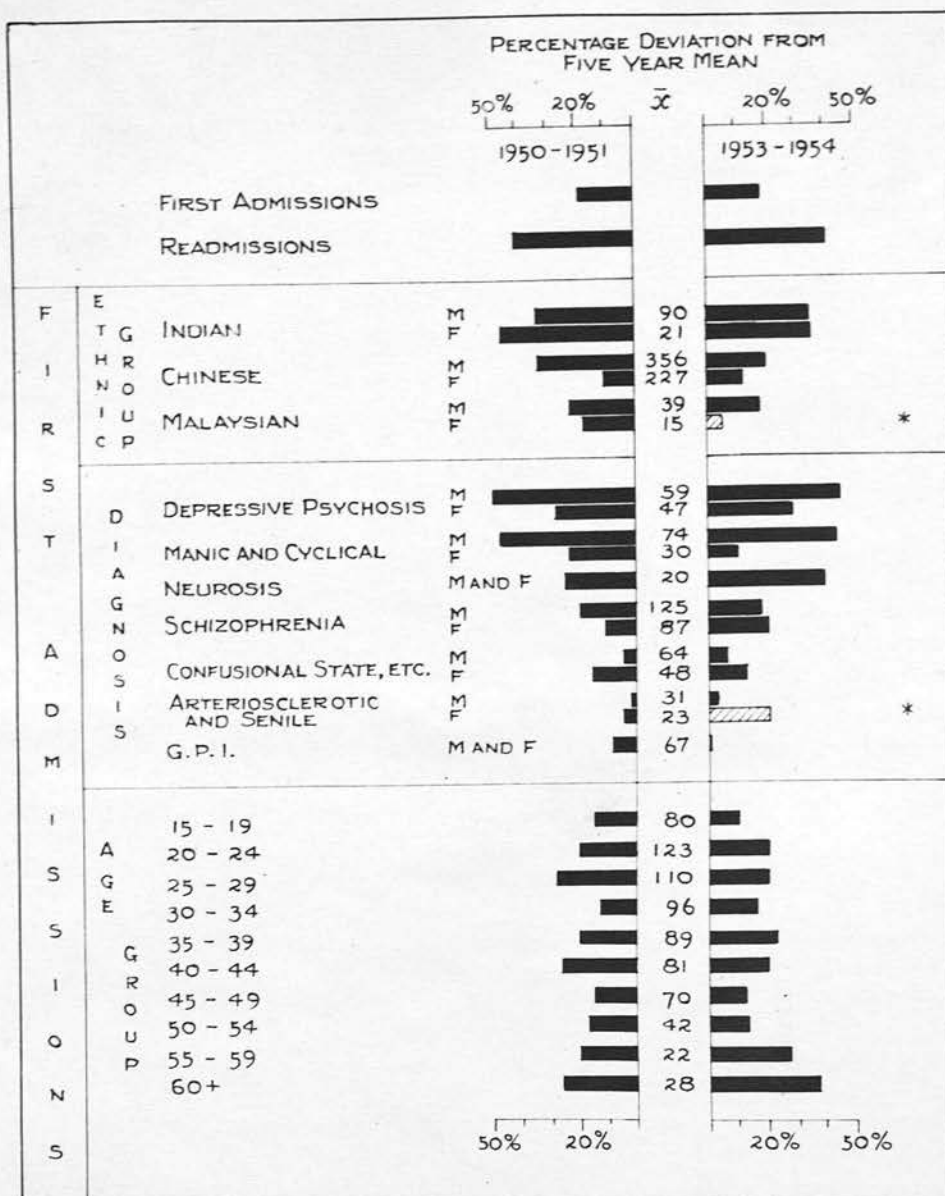


FIG. III. Percentage change in Singapore Mental Hospital Admissions over the period 1950-54, by type of admission, diagnosis, sex, age group, and main Ethnic Group. (* Hatched bars indicate a change in the opposite direction to that principally found; thus, the Malaysian Female admissions declined in number in the later years instead of increasing as did all the other ethnic categories.)

the war that certain types of disorder disappear spontaneously when given a little time, or if the need to depend on non-western forms of help at that period led to a residual though decreasing tendency to use them prior to consulting the hospital. Either of these attitudes would result in a proportion of the milder and spontaneously remitting cases recovering before hospitalisation was sought, while the forgetting or rejection of that wartime experience would lead to more of such cases coming to the hospital earlier as time passed. These are only hypotheses. Support appears to be given them by the fact that length of stay in hospital decreased with the years, but that could have been as the result of medical policy and when we look at the duration of sickness prior to admission (recorded in only a few cases, unfortunately) no such expected trend is visible. Another possibility is that the increase in mutual supportiveness within families and clans during the war resulted in a genuine decline in individual breakdowns, but again we cannot be sure. Such a fall is undoubtedly recorded for the concentration camp populations, Asian and European, in the area, (1, 7, 15, 20) but we cannot apply such findings outside of the very special situation the camps imposed. Whichever hypothesis one favors, however, it appears fairly certain that - excluding chronic cases for whom hope of cure had been abandoned - such mental disorder as did not come to the hospital must have been of a type that could remain adjusted to and accepted by the primary group. There is no evidence of psychotic cases wandering in the streets at this time and no other facility for residential psychiatric care existed except for a few patients hidden away by their upper-class relatives.

to fall sick in the northern part of that territory, and the psychiatric ward of the British Military Hospital. The latter treated very few Asian Singapore residents, and those few whom it did admit were usually transferred to the civil mental hospital if they became chronic. It did, however, treat the

families of British servicemen, and these constituted a significant proportion of the admissions to the Singapore mental hospital, which comprise should have included in this study all civilian cases from the core medical data

A. Type of Admission	YEAR OF ADMISSION					of the present study,
	'50	'51	'52	'53	'54	
1. Certification	529	626	725	219	33	and although material
2. Temporary Cert.	9	4	9	561	848	
3. Voluntary Adm.	31	88	99	183	203	from the earlier post-
4. Court) Observat.	27	34	58	73	83	
5. Order) Detention	20	7	16	16	22	war years was collect-
6. Unrecorded, etc.	54	4	6	10	4	ed we will be mainly
	670	763	913	1062	1193	
B. Referring Agent						concerned with the
	'50	'51	'52	'53	'54	
1. General Hosp.	230	259	278	539	450	
2. Relatives	263	290	365	323	446	years 1950-54, when the
3. Police	110	147	181	142	235	
4. Private Dr.	21	32	32	27	33	pre-war level of ad-
5. Self, etc.	19	30	44	25	23	
6. Unrecorded	27	5	13	6	6	missions had been equal,
	670	763	913	1062	1193	

TABLE 1 - Methods of Admissions and of Referral, by Year of Admission, for Singapore Mental Hospital patients, 1950-54. regained and the situation both within and without

the hospital was more stabilised. From the above discussion we have seen that the hospital was known and freely accessible. Table 1 shows that only one-fifth of the cases were brought in by the police, while two-fifths were brought directly by relatives and the remainder came after prior medical advice, usually from the general hospital. Ethnic group differences in this respect were slight, so that we may assume not only knowledge and accessibility but also acceptance by all main groups. We have noted that, as in other countries, non-residential forms of help would often be sought prior to hospitalisation, but the hospital's only competitors for residential care were the two government mental hospitals in Malaya, which would not be used unless the patient happened to fall sick in the northern part of that territory, and the psychiatric ward of the British Military Hospital. The latter treated very few Asian Singapore residents, and those few whom it did admit were usually transferred to the civil mental hospital if they became chronic. It did, however, treat the

families of British servicemen, and these constituted a significant proportion of the island's European population. For completeness, therefore, I should have included in this study all civilian cases treated by that department, and my military colleagues were accordingly approached to that end. After initial promises of help, however, the past records of that department, if they existed, were denied me. Their absence is somewhat mitigated by the fact that European population data in Singapore were, as we will see, so uncertain that only limited analyses of incidence could have been effected, but it is regrettable that it was not possible to compare three rather distinct groups of European residents - the 'colonial' civilian, the professional soldier, and the almost random sample of the United Kingdom population represented by the conscripted National servicemen and their families. In general, however, we can say that the civil hospital data should be representative of all non-Europeans receiving residential psychiatric care.

Between the seeking of such care and its attainment there can be, as was discussed, a number of distorting factors. Admission policy can be affected by such matters as availability of beds, legal or financial requirements, and concept of the hospital's role. In Singapore such distortions were fortunately slight. The ratio of beds to population was 1.8 per thousand, equivalent to 2.4 if one brings the proportion of children in the population into line with Western Europe. This compares quite acceptably with many states whose hospital data we are accustomed to use; for instance, the 1931 figures of 1.8 for Germany, 1.3 for Italy, 2.0 for Canada; or the 1948 figures of 1.8 for Michigan and 2.0 for Illinois⁽²⁴⁾; though it is still far below the levels of post-war Britain (3.4), New York (4.2), or Massachusetts (4.6).^{*} More impor-

^{*} A large proportion of psychiatric beds in these states are occupied by the aged, a situation quite different from Singapore.

tant, however, is the fact that at almost no time during this period was there overcrowding with beds in the corridors, such as one meets in so many mental hospitals, or conscious need to measure admissions by availability of beds. For a few weeks in 1953 a staff strike necessitated emergency measures, and for some months in another year the female side was uncomfortably full, but otherwise the non-availability of beds was not a factor. Legal and financial requirements were also relatively simple. There were no racial, residential or citizen qualifications and no financial limitations. At the beginning of the period most patients had to be certified, which is generally agreed to constitute a certain barrier, but if we examine what happened when these legal conditions were made more liberal (1952-53) we find that it did not affect the balance of referrals in any way (table 1B) and that the increase in total admissions became not steeper but flatter. Detailed examination of yearly admissions by diagnosis, ethnic group and age reveals only one change to have taken place after the liberalisation of admissions policy, namely a sudden jump in schizophrenia for both sexes and roughly all relevant age groups. This could have been related to the change in regulations, and to that extent we may say that the earlier procedure, with its emphasis on legal certification might have been holding back some schizophrenics who would otherwise have sought admission earlier. But that is all. The hospital psychiatric policy was a common one. Patients had to fall into certain probable categories of disease which included the neuroses but excluded simple epilepsy, simple mental deficiency, and simple senility unless there was some suspicion of a superadded psychosis. One man, the senior psychiatrist, customarily saw all cases seeking admission to determine their eligibility, provisional diagnosis and disposal. (Hence the unity

of subjective judgment on which I have placed some emphasis earlier was largely obtained, at least with regard to admission itself.) There were three classes of ward, but the first and second comprised less than a hundred beds in the total of 1,800-1,900, so that the influence of selective treatment was negligible except with regard to Europeans, who nearly always went to these wards. In allotment to third class wards no differentiation other than sex was recognised to operate, each ward unit having a mixture of ethnic groups in it and each doctor seeing a largely random mixture of cases. Hence individual staff differences of outlook with regard to diagnosis, discharge policy, etc., can be presumed to have no significant distorting effect on any of the variables we will be considering, with the exception of sex and of the Asian/ European division. But since the same doctor did not customarily operate on both the male and the female sides at the same time and changes between the two sides were infrequent it is possible that differences in diagnosis, duration of stay and reported outcome between the two sexes reflect the outlooks of the doctors concerned and not anything deeper. Final diagnoses, which are the ones mainly used in this analysis, were given by the ward doctors, not the senior psychiatrist. However, the small size of the professional staff and the fact that most of them had not received serious psychiatric training elsewhere ensured a consistency of diagnostic outlook which was as high as we need expect. As a test of this, table 2 shows that 69% of readmitted patients regained their original diagnosis, even though it was not the rule for patients to be specifically reallocated to their original physician and although necessity for readmission was normally taken as signifying that an original diagnosis of confusional state, neurosis or personality disorder had probably been incorrect. At this type of case are common, but the change means that a slightly different policy was being applied at the end as compared with the beginning of our

Diagnosis on First Admission	No.	Diagnosis on Readmission		Principal Change
		Unchanged	Changed	
1. Schizophrenia	103	86%	14%	Manic States (5 cases)
2. Manic & Cyclic	44	84%	16%	
3. Depressive	28	57%	43%	Mania (4), Schizo(3)
4. Confusional St.	32	22%	78%	Mania (10), Schizo(6), Organic(4)
5. Arterioscler. & Senile Psychos.	14	64%	36%	Involuntional Mel.(2)
6. Neurosis, etc.	10	20%	80%	Schizo(5).
TOTAL READMISSION	253	69%	31%	

TABLE 2 - Percentage Change in Diagnosis in patients Admitted for a Second Time; Singapore Mental Hospital. Percentages to nearest whole number; cases not given specific diagnosis on first admission excluded.

In principle, then, we can say that the administrative policy of the hospital should not have distorted the picture we hope to gain of those who came seeking psychiatric care unless they were epileptics or mental defectives, groups with which, in accordance with a common convention, we will not be dealing. Two further points, however, do introduce some distortion to the picture. In the first place the fact that the hospital doctors did not have time to do psychotherapy meant that cases of neurosis tended to be discouraged from seeking admission, since the conventional treatment for this condition was not available. That means that the few cases in the sample cannot be regarded as representative of even serious neurosis in Singapore. Secondly, the admitting psychiatrist did change his policy during the period on one point. Whereas in the earlier years he had admitted virtually all cases of suspected senile disorder without question, in the later years he first enquired into the degree to which the patient or his family could continue functioning in the home atmosphere and discouraged admission of those in whom there was some mental confusion, for instance, but still adequate adjustment and acceptance. Either of these ways of looking at this type of case are common, but the change means that a slightly different policy was being applied at the end as compared with the beginning of our

staff to change the record in the light of later information. Certain items period, and as the different ethnic groups did not all increase their admissions to the same degree (as Fig. III shows, the Indians increased much more than the Malaysians) we may say that a slight difference in approach more languages and dialects but in any mental hospital. Usually this problem existed. Of course, there may have been other unconscious changes in the is ignored, or it is assumed that such recording errors as may exist will be admitting psychiatrist's outlook, but none more than he told me of.

A total of 5,400 clinical records were read, coded for analysis and transferred to machine punch cards. Of these, 777 referred to the years 1946-49, when the records were not so well maintained, many not worth while however, its effect on one's analysis is not necessarily also random,* and in coding, and when in any case the admission rate was atypically low. They many instances this assumption of randomness is quite unjustifiable. Certain are thus not reliably representative and will not usually be used. The types of disorder, for instance, are much more likely than others to lead to remaining 4,623 represented all extant records commenced during the years 1950-54, and approximately 95% of all patients recorded in the admissions one may suspect that recording will be better for those speaking the clerk's register. Of the missing 5% the majority were probably light cases who had discharged themselves within twenty-four hours or so, but a few records had this state of affairs. Most of the tables to be presented here have been definitely been lost and to these must be added twenty-five cards irretrievably destroyed at some stage of the analysis (for which reason not all tables of better recording for the chief admission clerk's own language group was agree in their totals), the whole amounting to about 1% of admissions.

Diagnoses and the few other clinical features used were taken from the doctors' notes, and since the subjectivity of psychiatric diagnoses is a false variation in the seasonal distribution of certain variables had to be prior assumption in this study no problem of validity or accuracy exists here. The primary source of most of the social data, on the other hand, was the hospital admissions clerk recording what the patient or the person still needs to be kept in mind in our future discussions. Regarding consistency and accuracy of coding, an approximate ten per cent sample was checked accompanying him could give, and here a question of accuracy does arise. No

further checking of this information was usually possible - there was, for instance, no social worker's report on family interview which could be used for comparison - and only in a few items was there any motive for the ward practical index - so that less rather than greater strictness in statistical testing may be desirable. (See B's paper. (2))



staff to change the record in the light of later information. Certain items can be objectively appraised, of course, but many cannot and errors and omissions are therefore inevitable, not only in Singapore with its ten or more languages and dialects but in any mental hospital. Usually this problem is ignored, or it is assumed that such recording errors as may exist will be scattered at random throughout all categories of the sample and that, in consequence, the most one need do is to be careful about drawing conclusions from small differences. Even where the distribution of error is random, however, its effect on one's analysis is not necessarily also random,* and in many instances this assumption of randomness is quite unjustifiable. Certain types of disorder, for instance, are much more likely than others to lead to mutism or confabulation. Similarly, where a multiplicity of languages exists one may suspect that recording will be better for those speaking the clerk's own tongue than for others. I know of no simple or specific correction for this state of affairs. Most of the tables to be presented here have been checked for certain obvious distortions of this type - for instance, no evidence of better recording for the chief admission clerk's own language group was found, but it was found that at about the same time of each year the completeness of recording dropped, possibly when this person was on holiday, and a false variation in the seasonal distribution of certain variables had to be corrected. But the possibility of other uncorrected distortions of this type still needs to be kept in mind in our future discussions. Regarding consistency and accuracy of coding, an approximate ten per cent sample was checked

* Where group sizes are very different and the chance of error is the same for each the effect of misclassification can be negligible for the larger group and very serious for the smaller. But misclassification in other types of comparison may merely have the result of reducing the degree of perceived difference - this is the sociologist's difference between ideal concept and practical index - so that less rather than greater strictness in statistical testing may be desirable. (See Bross's paper. (2))

by myself, individual items which the coders found difficult to fit were also left for my own decision, and in this process certain previously chosen indices of social or psychiatric status were dropped as being too difficult to categorise consistently. For certain special items, not usually recorded but of theoretical interest, the senior psychiatrist, Dr. James Brown, kindly consented to do the coding himself at interview according to a scheme worked out with him, and this information was thus obtained for six months' consecutive admissions.

The nature and validity of the various sources of Singapore population data used need not concern us here. Specific problems in this respect will be discussed as they appear and the particularly interested reader can refer to the paragraphs on the question

in the sources themselves. Basically, most data stem from the official 1947 Census, (19) but two social surveys, (5, 6) housing records and professional registers have been used, as well as extrapolations by the Department of Census itself. (4) It is sufficient here to say that the stand-

ard of the Census and the surveys was high, higher than any part of Asia outside of Japan can claim and fuller than what one finds in many western countries.

What is more important to us is the question whether the hospital's 'catchment area' was that to which

Residence	Number	Per cent
City	2,775	70.5%
Rural	419	10.6%
Malaya	55	1.4%
Shipboard*	34	0.9%
Other	35	0.9%
Vagrants* & Unrecorded)	617	15.7%
T.	3,935	100.0%

TABLE 3 - First Admissions to Singapore Mental Hospital by broad Location of declared Residence, 1950-4, showing percentage from other lands.

(* Shipboard includes those giving a shipping agent or company as address. Some vagrants may have been included in the City figures since a few addresses proved to be police stations or temples.)

these population data apply. We have learnt that in general there was no other hospital to which psychiatric patients from Singapore could go, but what about patients from elsewhere coming to Singapore? This seems especially relevant since there are no citizenship or similar restrictions on free entry, and surrounding countries have all poorer mental hospitals than Singapore. Something of an answer to this point is given in table 3. In 85% of admissions a home residence was recorded and we see that only 3.5% of these addresses were outside Singapore, or presumed so. Those labelled "shipboard", seamen and others, nearly all European, are mostly true interlopers, patients falling ill on board ship and brought perhaps from other ports to Singapore since that was the only place on their route offering adequate mental hospital care (the alternative for such cases was to fly them back to their homelands). But we see that they represent only 1% of the total and their presence is therefore important to us only when we come to consider the European picture, which becomes further confused by their presence. The patients giving no address, of course, could disproportionately be immigrants, but since there was no penalty which would be incurred by revealing that one was from Malaya or farther lands I see no reason to expect this. We will find later that the proportion of cases of recent immigration seems higher than would be expected from the population data, but not much so, and it will be argued that the difference can probably be related to immigration strains. The 2.3% of cases declared as coming from Malaya and elsewhere is not high in relation to the amount of movement known to be occurring. It has been estimated that during the relevant years there was an average of not less than 1,500 arrivals from and 1,200 departures to Malaya per month, plus a permanent immigration from
(4)
overseas of about 2,000 per year.

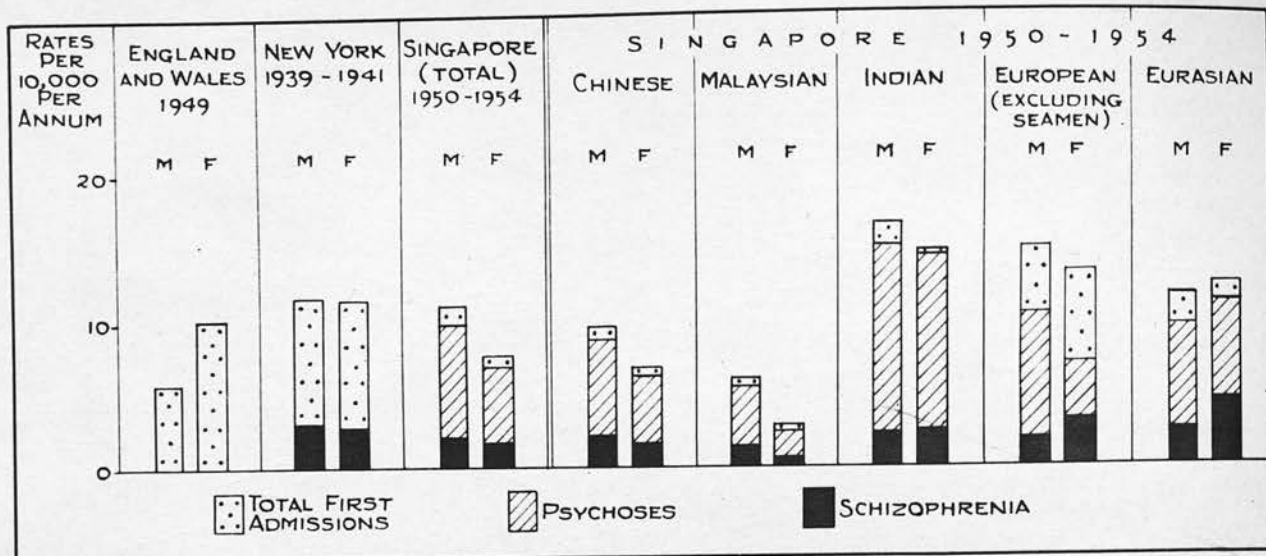


FIG. IV. Age-standardised Rates of Mental Hospital First Admissions, by Sex, Ethnic Group and Two Diagnostic Categories; Singapore, 1950-54; with comparable levels for England and Wales, 1949, and New York State. (Age standardisation was by the direct method on the estimated population of England and Wales, 1948. E. and W. data are for County Boroughs (Refs. 11, 16, 19.)

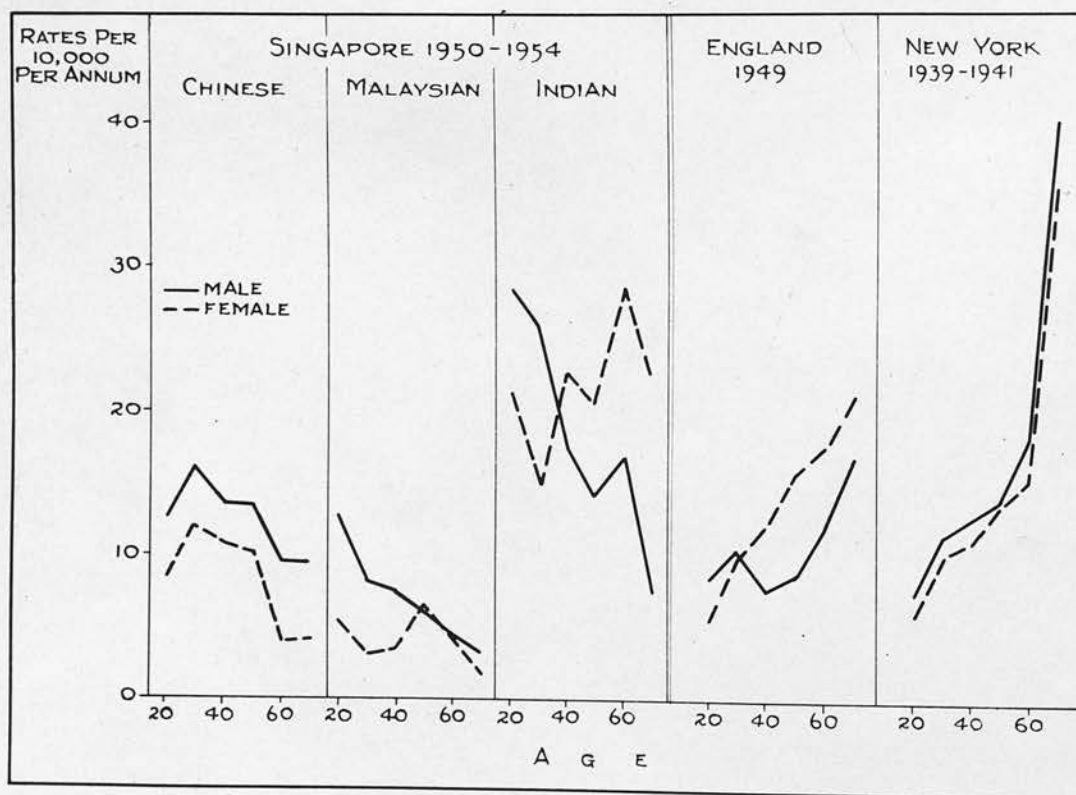


FIG. V. Incidence of Mental Hospital First Admissions by Sex, Age, and Ethnic Group; Singapore, 1950-54; with comparable curves* for New York State, 1939-41, and for England and Wales, 1949. (11, 16, 19.)

Now let us look at some of the broad findings and compare them with more familiar material, not so much for the small significance which such comparisons can carry as in order to help the reader to gain a better feel of what we are dealing with.

Figures IV and V present the overall levels of first admission for the main ethnic groups in Singapore as compared with a British and an American equivalent. A few moments' consideration shows that the mean age-standardized level of first admission in Singapore is quite similar to that in Britain, but that the levels at different ages and for the different ethnic groups are strikingly different. In consequence I think we must say that the similarity between the British and the Singapore levels is largely a coincidence.

However, a little consideration needs to be given to this coincidence since there are theorists who believe that the disposition to mental disorder is approximately the same throughout the human species. Such a theorist would argue that it does not matter whether the disorder appears early or late in life so that the similarity in age-standardized levels is more important than the difference in the age curves; and that since Singapore is a predominantly Chinese city it is the Chinese, the most native group, who are best compared with the British, the other ethnic groups being minorities under large potential stress. Such an argument carries the implication that although environment may precipitate the disorder sooner, or make its manifestations of first to readmissions a hospital shows. In Singapore the percentage of worse, or change the type of manifestation, it cannot alter the basic condition and hence preventive medicine cannot by manipulation of such environment affect the true incidence. Hence, except when emasculated of any true figures. These differences are quite large and might suggest differences meaning, it is quite opposed to the assumptions underlying this study, and any possibility that my basic data support such a theory needs to be answered, however briefly. The answer, I think, lies in the Malaysian levels,

which are so much below either the British or any of the other Singapore groups. If the British and the Singapore Chinese levels of mental hospitalisation are to be regarded as representing some index of a common basic human level of breakdown then the only explanation for the Malaysians is either that they are not human or that they are not hospitalising their cases. The latter possibility we will return to when we consider that group; for the moment I may say simply that I believe the Malaysian rate to be genuinely much lower than the Chinese at this time and that in consequence I see no reason for emphasising the similarity of the British and Chinese rates rather than the dissimilarity of all the others.

The levels in these diagrams refer to first admissions, i.e., to cases for whom there is no record, and who do not admit, being in a mental hospital previously. Such data are generally agreed to be more useful than those for total admission or for residence in hospital on a particular day. However, we know that there are always a few patients whose prior mental hospitalisation remains unknown or unrecorded for one reason or another, and while all hospital data are going to contain a few such cases first admission rates may be significantly distorted if their numbers are abnormally large. In such an instance, however, one would expect the number of recorded readmissions to be especially low and it is useful to know what ratio of first to readmissions a hospital shows. In Singapore the percentage of readmissions averaged 14.8% over the period, and thus falls approximately half way between the British (32% in 1949) and the New York (5.8% in 1952) figures. These differences are quite large and might suggest differences in ease or persistence in ascertaining a patient's history; for instance, although the New York State hospital records are centralized there is free

and abundant movement in that country and prior hospitalisation in another state can more easily be concealed or neglected than in Britain or in Singapore. However, a main factor affecting percentage of readmission is almost certainly hospital policy on early discharge. I cannot obtain comparable data for New York,* but Figure VI reveals a probable relationship between mean length of stay and readmission percentage in Singapore and in Britain. We see that although the proportion of chronic (over two years

residence) patients in the two countries is very similar, 28% and 32%, the proportions discharged at successive earlier stages are very different. In Britain the majority are discharged within three months; in Singapore the highest levels are for the period of four months to one year. This is not necessarily the whole explanation - for instance Israel, which is reported to have the quite extraordinary figure of 36% readmissions, has a higher mean length of stay than Britain (3.7 months as against 2.2); and for Singapore itself I have mentioned the tendency of families to keep relapsed patients at home if belief in the hospital's curative power has been lost - but it does suggest that if policies on early discharge had been more similar readmission rates might also have been closer. The main point is that we

have no special reason from these data to suspect that the Singapore 'first admissions' conceal proportionately more patients who should properly have

been put in the readmissions category, than do British or American data. During the period 1950-54 the number of readmissions increased more rapidly than first admissions in Singapore and the mean length of stay decreased, suggesting once more that the two trends might be associated.

Figure V indicates that, with the exception of the European group, non-psychotic admissions play a small part, smaller than we know is usually the case in Britain (unfortunately the data I have referred to from that

*Relevant data for New York State were received after the above was written (ref.11a) and have been included in the Figure. As can be seen, the assumption of a relationship between readmission rate and discharge policy is further supported.

country do not permit the comparison to be made more exactly). This, however, is only the least - because its explanation is so obvious - of the very marked differences in diagnostic distribution which one finds. Even when we compare the diagnostic distribution with that of a group of American state hospitals, (Table 4) where the neuroses are

International List Number	Diagnostic Group	Males		N.Y.	Females		N.Y.
		No.	%	%	No.	%	%
300 ex 300.3	Schizophrenia, (ex paranoid)	627	24.6	14.9	427	30.6	16.1
302 plus 300.3	Paranoia & Paranoid schizo.	25	1.0	12.9	9	0.6	14.9
301.0 & 301.2	Manic-depressive, manic & cycl.	372	14.6	0.5	149	10.7	1.0
301.1	" " , depressive	234	9.2	0.5	135	9.7	1.1
302	Involutional Psychosis	61	2.4	3.7	99	7.1	7.8
305	Senile Psychosis	35	1.4	12.7	53	3.8	20.7
306	Arteriosclerotic Psychosis	117	4.6	24.6	67	4.8	21.0
307 & 322	Alcoholic Psychosis & Addict.	12	0.5	10.8	-	-	3.5
308.2, 309(part)	Confusional (Toxic) Psychosis	330	13.1	3.2	207	14.9	1.7
309(part), 688.1	Puerperal Psychoses				52	3.7	-
310-318 (inc.)	Psychoneuroses & reactive st.	61	2.4	3.5	44	3.2	3.7
320-321	Psychopathic & Personality dis.	37	1.5	4.7	4	0.3	2.5
325	General Paresis	318	12.5	2.3	38	2.7	1.2
308.1	Epileptic Psychosis	24	0.9	1.4	5	0.4	1.1
325	Mental Deficiency	91	3.6	2.0	47	3.4	2.0
309 (part)	Other & unclassified psych.	39	1.5	1.7	15	1.1	1.4
	Undiagnosed & without disorder	164	6.4	0.6	41	2.9	0.4
	TOTAL	2,548	100.2	100.0	1,392	99.9	100.1

TABLE 4. First Admissions to Singapore Mental Hospital, 1950-54, by Sex and Diagnosis, with Percentage Distribution and equivalent Percentages from New York Civil State Hospitals, 1952⁽¹³⁾, and with corresponding International List Code Numbers⁽²²⁾.

similarly not catered for, the differences are much greater than could normally be accounted for by variety of diagnostic outlook. The affective psychoses comprise almost a quarter of the Singapore admissions but less than a fiftieth of the New York. The senile and arteriosclerotic group, on the other hand, comprise only 7% of the Singapore cases but almost 40% of the American. One cannot account for such large differences in terms of outlook or of some undisclosed admissions policy.

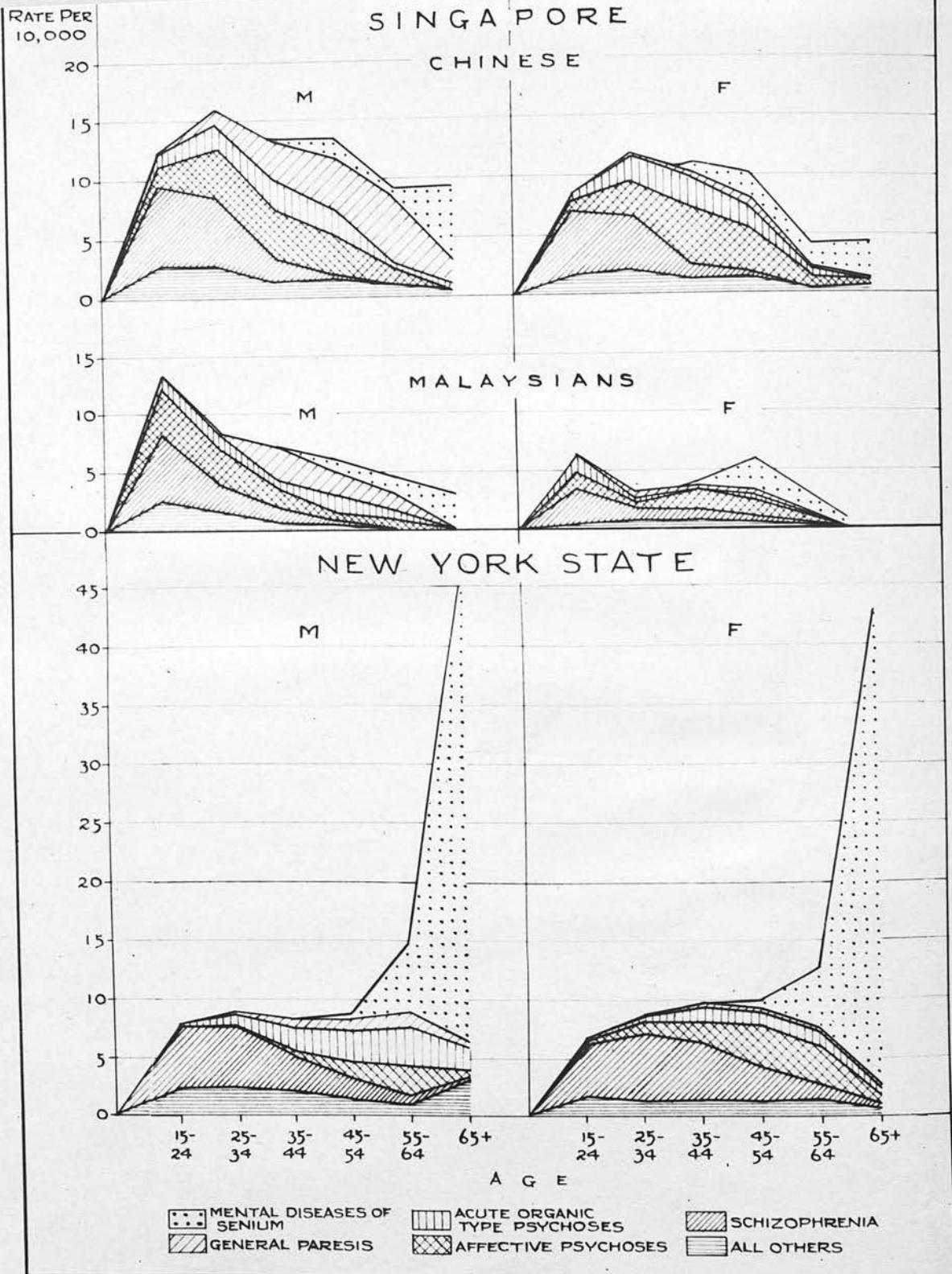


FIG. VII. Age-specific curves of first admissions to Singapore mental hospital, 1950-54, by sex, Ethnic group, and main Diagnostic groups; with comparable curves for New York State, 1948 (13).

(Note: for Europeans and Eurasians number of cases was so small that only division into psychotic and non-psychotic seemed useful here.)

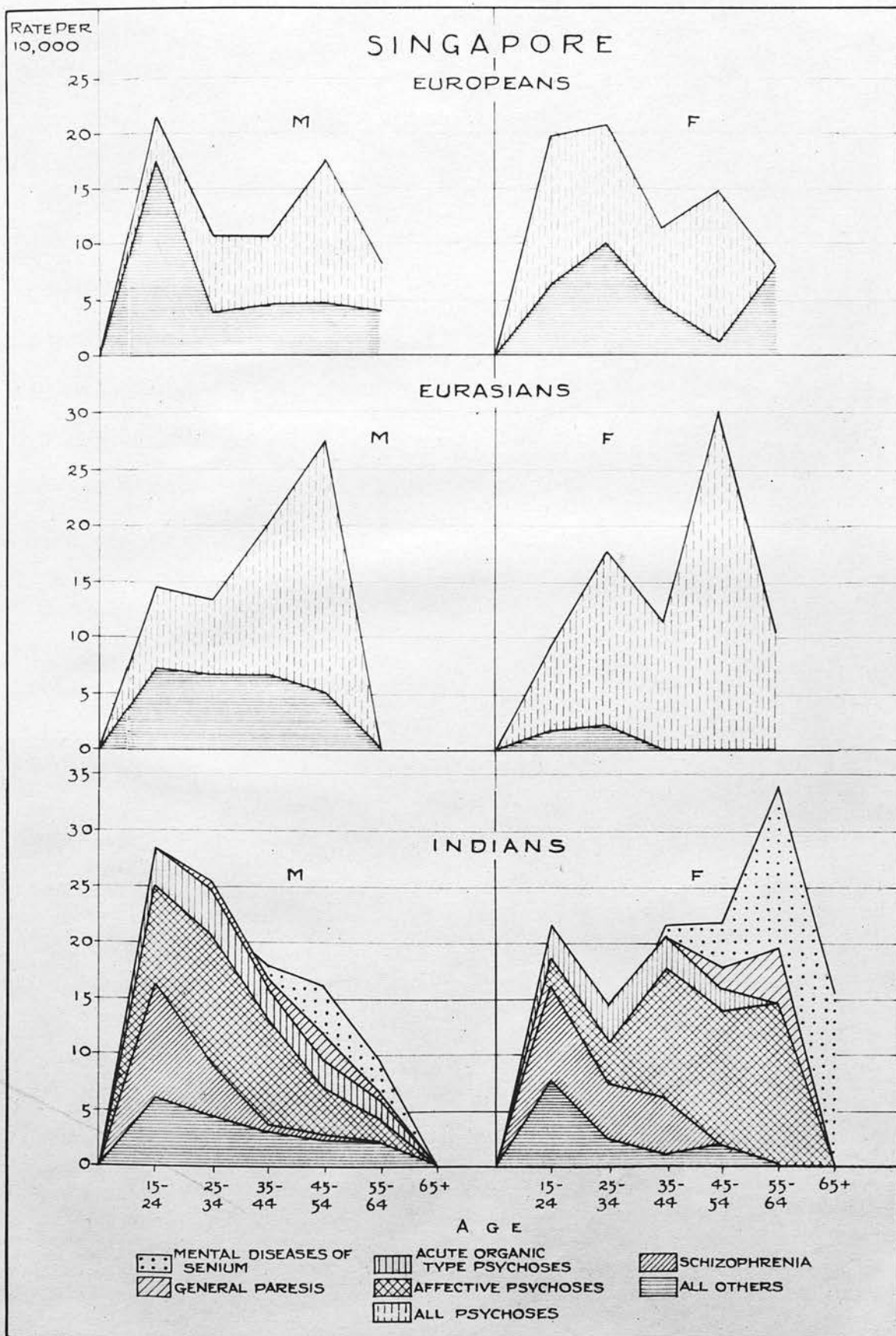


FIG. VIIa. (Caption opposite.)

Psychoses Combining the diagnoses with age and ethnic groupings, as shown in Fig. VII, indicates that differences in diagnostic pattern between the different peoples of Singapore are very great, almost as great as between the total Singapore picture and that of western lands. Two points, however, are common to virtually all the Singapore groups and distinguish them rather markedly from virtually all West European or North American data one meets. The first is the generally low level of senile and arteriosclerotic psychosis, the second the high level of what I have called confusional psychosis. The low absolute numbers of senile cases, of course, are related to the age structure of the population, but when age specific rates are used the levels are still remarkably low, at least for the Asian groups, while the European and Eurasians seem to show the same trend although the number of resident old people is too small for reliable rates to be calculable. The question therefore arises whether there is any influence of climate, locality, or the general social atmosphere of Singapore on these conditions. We will come back to this matter when we consider the Europeans. With the confusional psychoses the problem is the opposite. This condition, which in the hospital was more commonly labelled toxic psychosis, though without any specific toxin or infective agent usually being mentioned, is so relatively rare in Europe and the U.S.A. that no proper place is given it in the International Classification of Disease. (22) Under the terms 'confusional insanity' and 'exhaustion delirium' we find it indiscriminated from 'dementia, not otherwise specified', from 'delusional insanity' and from a form of cerebral atrophy under the single coding of 'Other and Unspecified'. (17, 14) Under the terms 'confusional insanity' and 'exhaustion delirium' we find it indiscriminated from 'dementia, not otherwise specified', from 'delusional insanity' and from a form of cerebral atrophy under the single coding of 'Other and Unspecified'. fore arises whether either the incidence pattern or cultural characters

Psychoses'. Yet it comprises a seventh of the admissions during the period and in earlier years, before the senior psychiatrist pressed his doctors to use more orthodox labels, it was the largest single category. The nature of this category and the significance which it has will be discussed later, but for the present it seems worth noting that it was not only Asians who were thus diagnosed. Five of the European admissions were similarly labeled. It is probable that among these five were border-line cases who would have been named something else in Europe where the category would not come so easily to mind. However, it is improbable that this is the whole story; a similar condition was reported relatively frequently among U.S. soldiers fighting in the tropics. The particular features which lead to this diagnosis, therefore, may in some way be connected with Singapore's location or character, with the climate or with tropical parasites as well as with matters specific to particular sections of the population. We will return to this question later but since in the intervening chapters emphasis will be placed mainly on connections between the condition and certain cultural factors it is worth while keeping in mind that a climatic or other general influence is not excluded. The main argument against such an hypothesis is that the condition is apparently also common in the USSR. (17, 14)

The contrasts shown in the tables and diagrams of this chapter between one ethnic group's admission rates and another's, or between one age group's and another's, are basic to much which will follow. They refer, however, only to the period 1950-1954 whereas our discussion will draw on ethnographic and other material from earlier years, and the question therefore arises whether either the incidence patterns or cultural characters

are sufficiently stable to justify this conjunction.

To state how far certain previously described characteristics still persist at a certain moment in time is very difficult, although there are fortunately a number of post-war studies which help. The persistence of hospitalisation patterns is more easy to demonstrate, provided previous records exist at all. In Singapore such previous records were unfortunately almost all destroyed during the war and published reports did not usually present their material in the most suitable form, but some earlier data are summarised in Table 5. There one sees that in

YEAR	SEX	RATES PER 10,000 PER ANNUM OVER AGE 15				
<u>E.G.</u>		<u>CHINESE</u>	<u>MALAYS.</u>	<u>INDIAN</u>	<u>EUROPEAN</u>	<u>EURASIAN</u>
1917-	M	5.3	4.1	6.7	13.3	12.9
19	F	3.7	2.8	11.7	8.9	9.3
1930-	M	8.7	10.3	17.7	9.7	20.0
32	F	7.0	7.3	20.6	8.9	14.5
<u>AGE GP.</u>		<u>15-24</u>	<u>25-34</u>	<u>35-44</u>	<u>45-54</u>	<u>55+</u>
1917	M	4.8	8.2	8.2	10.6	7.0
(Part)						

TABLE 5. Admissions to Singapore Mental Hospital at different periods prior to 1950; rates only; by ethnic group and sex, and by age group (1917-19 data corrected to exclude admissions from Malaya, which were considerable at this time.)

general the same patterns of relationship hold. The Malaysians have usually the lowest rates and the Chinese the next lowest. There is the same fall in incidence with old age and the same overall predominance of male rates over female. Differences do exist: the peak age is later; the Malaysian male rate exceeds the Chinese at one point; the Indian

female exceeds the male; the Eurasian rates vary considerably in relation to the others. Some of these differences can be related to the fact that standardisation was not possible and that European seamen, for instance, could not be excluded. The others will be discussed in due course. In general, however, we see that the age and ethnic group patterns of mental hospital admission which we find in 1950-1954 are not the isolated peculiarities of that quinquennium but are broadly representative of a much longer period.

These few points have been intended merely to lay the groundwork for the following chapters and I do not intend to pursue them further now. It was useful to collect such basic data together at this point, and although many questions remain unanswered about them we will be returning to them from different standpoints later. Now we will move on to consider each of the main cultures of the region, using as psychiatric material not only what Singapore can offer but whatever else seems relevant from other localities. In doing so comparisons will have to be made between data collected under different sets of circumstances and according to different standards, a procedure which I have already labeled highly dubious. However, in as far as one takes what is common to the different sets of data, not what differs in them, this approach seems, with proper safeguards, both permissible and profitable. We will also be considering the intervening mental steps between the environment and the disease, steps which having been emphasised in the introduction had been dropped out of sight in the present chapter.

(23)

Chapter 2.

The Chinese

(45)*

The first mental hospital in China was only opened in 1898⁽²⁵⁾; Peking the capital got its first asylum about 1917⁽⁴⁴⁾; and by 1930 Schaltenbrand could only count 1,200 psychiatric beds in China and Manchuria (half of them in Canton) for the whole population of 400 million, almost exactly the same number of beds as Singapore had in that year for its population of 560,000. Outside of China proper the Chinese communities in Hong Kong, Singapore and Hawaii were all much more richly endowed in this direction, but not even in Hong Kong could one consider the population a normal or resident one and as we shall see the pattern of mental disorder obtaining in these colonies was different from what we can gather to have been the case in the home country. In these circumstances measures of mental hospitalisation in China have no meaning and any estimates of incidence derived from hospital data, McCartney's⁽³²⁾ for instance, tell us nothing. To get at any estimate whatever of mental disorder in China we must rely on social surveys of which there are, fortunately, three, though not of equal quality.

The first of these surveys in time was an attempt by a Japanese army doctor with psychiatric training in 1942. Having lived in a village near Canton for two years (though unable to speak the language) he

* Wong and Wu in their history of Chinese Medicine state that there was an earlier asylum in 1885 at Fatsan, but it appears to have had no patients! Similarly, there was a Refuge for the insane in Peking in 1912, but it appears to have early been perverted from its purpose.

(28) reported that he found only six cases of mental disorder (plus one epileptic) in a total population of over 7,000. The figure, as he admits himself, is remarkably low even if we consider that he could have found only the most obvious cases - those who would be certified in a European country - but he gives it as his opinion that patients were not likely to have been concealed from him (and one can see little reason why they should have been, once the villagers realised that he would not exterminate them) and that he cannot have missed more than one or two. The next survey to be published had taken place at almost the same time by orthodox census methods in a district of Yunnan (50). There the investigators were Chinese, school teachers and local headmen who had the cooperation of the people as far as it was likely to be obtained. House-to-house visiting was the rule, and the survey of chronic sick was only a small part of a general census of population. The enumerators obviously paid attention only to the current sick or those locked up for fear that they should become mad again but the consistency of the incidence which they report suggests that they were working to a generally accepted definition of insanity. (Table 6.)

	District	Population	Cases	Rate
Their findings work out	Kunming City	74,174	33	4.5
at approximately three	District A	53,986	25	4.6
cases per 10,000 popula-	District B	184,133	54	2.9
tion which is almost one	District C	69,231	19	2.8
tenth of the rate reported	TOTAL	381,524	131	3.4

in the 1880 census of mental cases (done by

TABLE 6. Insane Cases found at House-to-House Census of Kunming District, Yunnan Province, China, in 1942; with rates. (Derived from table published in Chen⁽⁵⁰⁾).

(17)

correspondence with local doctors) in Massachusetts, or one tenth of the rate of mental hospital residence in Britain today. Yunnan at that time was flooded with refugees from the east and it can be assumed that the chronic mental sick would mostly have been unable to make the journey. Nevertheless the incidence is low, whatever correspondence we try to make between Chinese and Western concepts of mental disorder.

In contrast to these two remarkably low estimates is the much more careful study of Lin

SURVEY	Rate Per 100,000			
	Schizo.	M/D.	Senile	Total
Formosa (30)	5.9	2.3	10.7	18.9
Bornholm (14)	6.3	6.4	2.8	15.5
Bavaria (4)	4.8	2.8	10.9	18.5
Komero (1)	5.0	8.7	6.3	20.0

TABLE 7. Expectation of certain Psychoses in one Chinese and three other surveyed populations. (adapted from Lin⁽³⁰⁾).

active cases but also cases with a past history of disorder were recorded, the aim being to attain comparison with the classic work of Fremming, Brugger, etc. Lin's results show no lowered incidence at all compared with Europe; his standardised expectation rates (Table 7) are very similar to those reported elsewhere. The striking fall with age, especially if one considers not age on admission but the age at first onset on which there is fortunately one report. None of the data are beyond suspicion but the three sources from which age-specific diagnoses and other minor cases missed entirely because their former queerness was not a public scandal. Lin states: (33, 42, 57)

"The majority of schizophrenic cases had had apparent active schizophrenic symptoms in the past and at the time of investigation were 'withdrawn' or 'odd' in their behaviour, with limited capacity for referring not to hospital admissions but to cases seen at general clinics.

social adjustment".....".. those aged people were diagnosed senile dementia who were unable to adjust themselves because of intellectual deterioration and who were a burden to the family despite the rather high tolerance of the Chinese towards aged people."(op.cit.)

With such definitions one cannot quarrel, but the diagnostic problem remains, and if it is true, as the quotation seems to imply, that the majority of the cases labelled schizophrenic were not actively so at the time of census it seems as though the interpretation may have been rather liberal. For present purposes, however, the important thing is that this carefully conducted survey contradicts the low rates suggested in the other two papers so that all that we can say at this point is that the incidence of violent psychotic episodes among the Chinese appears to have been low but that the incidence of total psychoses may be the same as in the other countries.

That conclusion refers to total rates. When we come to age and sex specific rates and to diagnosis the hospital data are of more use to us. We have seen in the previous chapter that the Asian groups in Singapore do not exhibit the rise of mental disorder with age which is typical of most Western cultures. In China itself, however, all available data suggest that there is not merely a failure to rise but a definite and striking fall with age, especially if one considers not age on admission (which may be markedly affected by the shortage of psychiatric beds) but the age at first onset on which there is fortunately one report. None of the data are beyond suspicion but the three sources from which age-specific curves can be drawn (Figure VIII) all agree in showing this fall and other papers which make imprecise reference to age (26,33,42,57) also indicate the relative youth of the majority of the patients, some of these papers referring not to hospital admissions but to cases seen at general clinics.

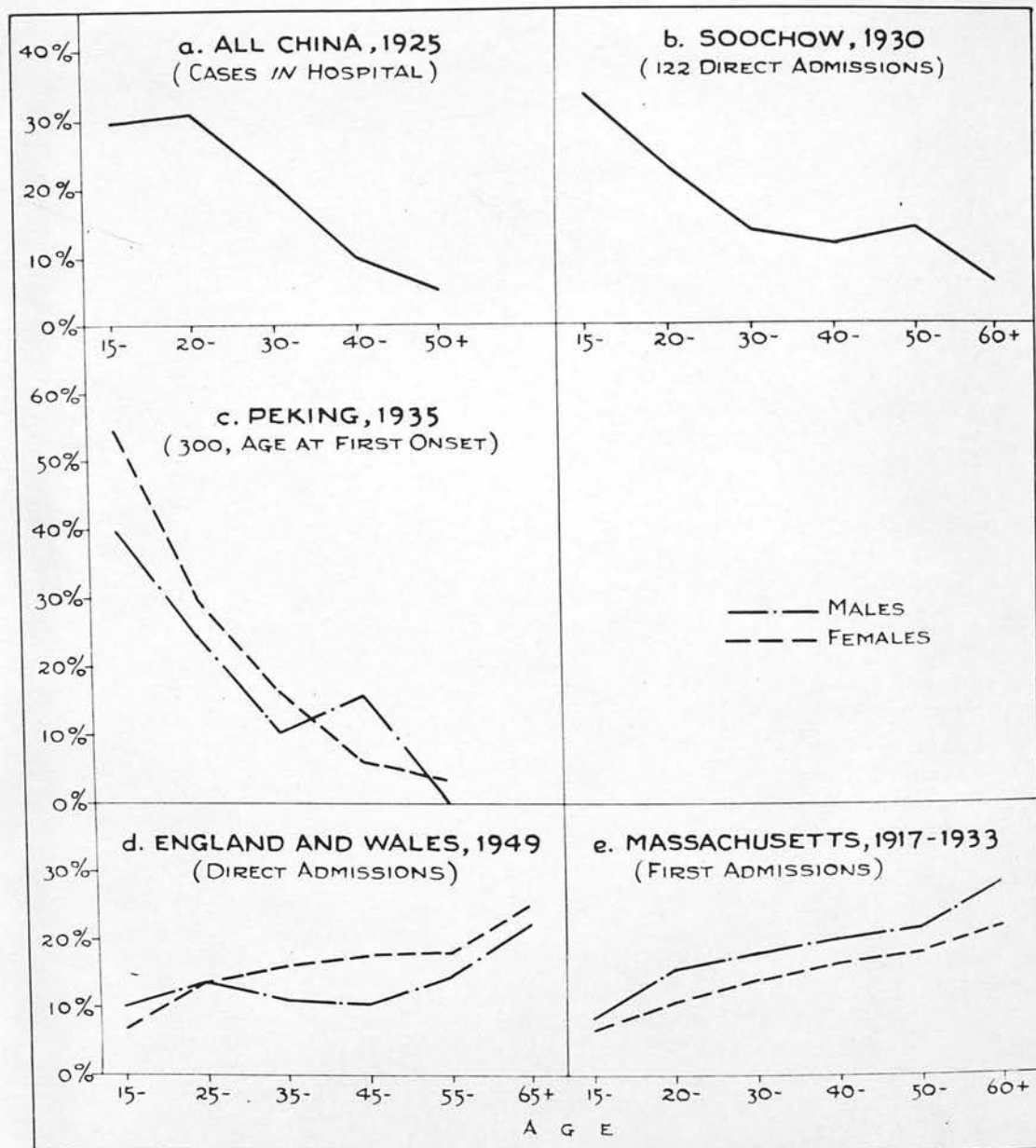


FIG. VIII. Percentage distribution of admissions to mental hospitals in China, 1925-1935, by age at first onset (Peking only), age on admission (Soochow only), and by age at time of survey (all mental hospitals in China). (Hospital data from McCartney (32), Chou (6), Wu (58), Dayton (10) and the Registrar-General (41); population estimates for China from Ta Chen (50), for Soochow from the census of Kiang Nin district in the same province, quoted by Ta Chen, and for Peking from Gamble (15). Means of comparison has been to calculate specific rates for each age group and then plot them around their means on a percentage scale.)

The only dissenting voice is that of Lin from Formosa. There, as we have seen (Table 7), he found relatively many cases of senile dementia, and he argues that such cases occur quite frequently but are held back from hospital because the Chinese are exceptionally tolerant of their aged and because hospitalisation would mean loss of 'face'. I feel there is something in this argument, but not sufficient to outweigh the other evidence. It is based on only six cases concerning whom we do not know the age at first onset and who were diagnosed in a single brief interview on the basis of a definition (see above) which permits a liberal interpretation. Moreover if one converts Lin's prevalence rates at each age (after smoothing the curve) into incidence rates on the assumption that all past cases had been discovered and that mental cases have the same expectation of life as the rest of the population (neither assumption being very sound), the resultant incidence curve is quite similar to graphs (a) and (b) in Figure VIII. Nevertheless, the point would remain in doubt were there not other evidence on the subject.

The mental disorders of later life are mostly of the kind we call organic and are mostly associated with arteriosclerotic changes. In the diagnostic distributions in table 9 and in other papers which I have not quoted one finds no instance where anything but a low percentage of arteriosclerotic and senile psychoses is reported. This could have been due to cases being held back from hospital, as Lin suggests, but the same argument does not apply to other arteriosclerotic disorders of the nervous system since no stigma attaches to seeking purely medical help in such cases whereas neighbourly criticism might be roused if one did not seek it for one's elders. And for these non-psychotic arteriosclerotic disorders of the nervous system Woods has shown that the incidence

is unusually low, being only 0.13% of total clinic cases and 2.6% of neurological cases at the Peking Union Medical College hospital (figures based on 4,000 case records). These figures do not only support the belief that the incidence of senile mental disorders is low, they raise the question whether there is not some inherited resistance or some cultural influence on the production of cerebrovascular disorders at work, rather than simply a reluctance to send old people to a mental hospital. I propose, therefore, to digress briefly and see whether there is any independent evidence of a racial or cultural difference in susceptibility to this or related diseases.

		Age Group			
		No.	21-30	31-50	50+
the moment of the once	European	40	12.0%	25.8%	74.1%
popular model (mental	Chinese	223	5.4%	16.5%	70.2%
strain - hypertension -	Malaysian	409	2.8%	15.8%	60.7%

general arteriosclerosis - TABLE 8. Percentage Incidence of Arteriosclerosis (all systems) in post-mortem Examinations in cases of Accidental Death; by age and Ethnic Group, males only; Java⁽³⁶⁾.

accident or cerebral ischaemia - senile or arteriosclerotic mental degeneration) then there is considerable evidence to suggest that the Chinese differ from Europeans at each successive stage. Stratton and Henry have shown that under experimental emotional stress the Chinese and Japanese physiological reactions are clearly different from those of Western subjects, showing less cardiovascular response and more cutaneous; and they argue from an analysis of these findings that the difference is probably racial and not cultural or conditioned. Other physiologists have published survey results showing that the mean systolic and pulse

pressures of Chinese samples in China run below those of Western samples at all ages, while a recent paper from Formosa shows that this remains true at least till the age of forty-five, though becoming less later (60). The Chinese in that study were migrants from the mainland, and when we turn to the evidence on arteriosclerosis in another group of Chinese migrants the same change is found. As Muller's results quoted in table 8 show, Chinese cadavers had significantly less general arteriosclerosis than the Europeans ones up to the age of fifty, although the difference disappears above that age. De Langen from the same area has published his clinical results to show that the incidence of pathological hypertension, of coronary heart disease and of angina pectoris is apparently strikingly low in the Chinese and Javanese, at least as compared with the Europeans in that locality (11), and from China itself the rarity both of true angina and of angina-form neurosis has been reported by Houston (21). Finally, in Singapore the Chinese show a strikingly low frequency of hospitalisation for cerebrovascular accident or for hypertensive complaints as compared with the other ethnic groups there, even in old age (see Table 5/3 on page). There would therefore seem to be ample grounds for believing that a racial difference in susceptibility to this chain of pathology exists, either at one or at many points. However, the validity of that model of causation is very questionable. It does not take into consideration the difference between atheromatous and hyaline degeneration, dietary factors, the development of arteriosclerosis without hypertension, or the marked differences one finds in the ratio of cerebro-vascular to other cardiovascular mortality in different groups, etc. More specifically, the whole line of argument

with regard to the Chinese appears to fall down when we turn to Hawaiian

	Chinese	Japanese	Caucasian
1. Cerebrovascular Accid.	163.1	158.6	112.9
2. Arteriosclerotic & Degenerative Heart Dis.	336.0	157.3	377.8
3. Hypertensive Heart Dis.	137.4	69.1	86.0

mortality rate from

TABLE 8a. Age and Sex Standardised Mortality Rates for two Asian and One Western group in Hawaii, 1947-56.
(Unpublished data, courtesy the Department of Statistics, Honolulu, and Miss Dorothy G. Wiehl.)

Cerebrovascular Accidents and from Hypertensive Heart Disease than either the Americans (Caucasians) or the Japanese there, and a rate for Arteriosclerotic and

Degenerative Heart Disease which is double the Japanese rate and close

to the American one (Table 8a). Since there is no racial difference

between the Chinese of Hawaii and those whom the other papers referred

to the possibility of racial differences as a major factor here fades.

We cannot say that it does not exist, and other findings cited in this

chapter with regard to certain neurological conditions lead me to

believe that there is some such factor at work, but it is clear that

something else is of much greater importance. In Singapore and most of

the other locations from which the above findings were gathered the

Chinese were still fairly adherent to their old culture (and to their old

diet); in Hawaii they had largely abandoned both. It would therefore

appear that the Westernisation of their life in the one location and its

non-westernisation in the others may be a main point. What we can still

say, though, is that when non-westernised the Chinese appear to possess a

resistance not only to arteriosclerotic psychosis, but to a number of

other conditions usually associated with the arteriosclerotic process.

Col. 1, 2, 4, and 6 - circa 1928-30 - Schaltenbrand (44)

Col. 5 - three years during the 1920's - Maxwell (26)

Col. 8 - 1950-54, own data, first admissions only.

Col. 9 - 1929 - Brown (3), first admissions only.

Col. 10 - 1949 - Reg. General (41) total direct admissions.

DIAGNOSIS	S E X	1	2	3	4	5	6	7	8	9	10
		M u k d e n	P e k i n g	P e k i n g	S o o c h o w	C a n t o n	C a n t o n	H o n g k o n g	S i n g a p o r e	U S A	E n & g W l a a l n e d s
			I	II		I	II			1929	1949
schizophrenia	M	42.0	24.0	37.5	46.0	34.5	12.0	26.0	28.0	20.0	23.0
	F			30.5		15.0		20.0	32.0	25.0	15.5
paranoia	M	5.5	6.0	4.5	-	-	-	6.0	0.5	1.5	1.5
	F			2.5				10.0	-	2.0	2.0
manic-	M	3.5	16.0	12.0	20.0	32.5	22.5	30.0	20.0	8.5	23.0
depressive	F			20.0		62.5		32.0	22.0	20.0	33.0
evolutional	M	-	3.0	-	1.5	-	5.0	5.0	2.0	1.0	2.0
melancholia	F							1.0	5.0	3.0	4.5
arterioscler.	M	-	-	1.0	-	2.0	-	1.0	6.5	16.5	12.0
Senile	F			2.0		-		2.5	9.5	18.5	13.0
P. I.	M	11.5	10.0	4.5	20.0	17.0	9.5	10.0	15.0	11.5	1.0
	F			1.5		8.5		2.5	3.0	4.5	0.5
her	M	7.0	24.0	4.5	3.0	4.0	9.0	?	14.0	6.5	6.5
organic Type	F			2.5		6.0		?	18.5	6.5	5.5
alcoholic	M	4.5	-	-	-	5.0	1.0	1.0	-	9.0	1.5
psychoses	F					-		0.5	-	2.0	0.5
psychoneuroses	M	23.0	7.0	28.5	5.0	-	9.5	4.5	2.0	7.0	19.0
Psychopathy	F			34.0				7.0	0.5	6.0	16.0
her	M	3.0	10.0	7.5	4.5	5.0	31.5	21.5	12.0	18.5	10.0
admissions	F			7.0		8.0		25.5	9.5	12.5	2.0
her in	M	86	96	181	122	885	687	1369	1793	43,556	23,596
ple	F			119		417		979	1133	28,077	32,189

9. Percentage Distribution of Cases admitted to various Mental Hospitals in China, Diagnostic Group; with comparable data from Manchuria, Singapore, the U. S. A., and Japan.

- Cols. 1, 2, 4, and 6 - circa 1928-30 - Schaltenbrand (44)
 Col. 3 - circa 1935 - Chou (6)
 Col. 5 - three years during the 1920's - Maxwell (26)
 Col. 7 - 1950-53, first admissions only - Yap (59)
 Col. 8 - 1950-54, own data, first admissions only.
 Col. 9 - 1929 - Brown (3), first admissions only.
 Col. 10 - 1949 - Reg. General (41) total direct admissions.

(38)
been shown that there is as great a difference in the expected direction between the mean scores of Chinese mentally ill and normal groups as between American mentally ill and normal (Table 10, section D), and that Chinese test scores correlate significantly with self-assessments in certain fields (22). It seems probable, therefore, that the higher Chinese student abnormality scores do reflect some form of disturbance and hence go a little way to support Woods' statement, although it would be exceedingly rash to suggest that the quantitative difference between the two group means reflects an equal difference in mental instability. However, the value of these tests lies not in abstract numerical quotients but in the light they shed on different aspects of Chinese and American personality.

When each sentence of the Thurstone Schedule is considered separately and the Chinese and American mean and differential scores are compared, several things stand out. The first is that the Chinese student group see their family background much more often as an unhappy or unbalanced one. Such statements as that the home is unhappy, that the parents were unhappily married, that the mother is dissatisfied with her lot, that favouritism is practiced, that adolescence was unhappy, and that the father was preferred to the mother are scored much higher by the Chinese groups than by American. It is true to say that this reflects a cultural difference and that the sentences are related to the Western ideal rather than to the Chinese, but we also believe that mental disturbance is more likely to appear in such circumstances, largely irrespective of culture. Not unexpectedly with such a background one finds that the Chinese admit more impulses to steal, to set things on

Even within the broad range of non-westernised Chinese living patterns, however, cultural influences can be detected. When we come to consider the distribution of Singapore mental patients by type of primary group or family (Chapter 10) we will find that there is a marked and significant difference in the percentage of organic type psychoses shown by the extended and nuclear family groups. Only 2.5% of extended family cases had some form of organic type psychosis compared to 20% of nuclear family cases and 29.9% of the single-person-household group. The difference affects the young as well as the old and so cannot be attributed to the special respect and tolerance accorded to old people in Chinese extended family tradition. Rather I feel that there must be something connected with the extended-family type of life which protects against the organic type psychoses, and since the cohesive extended family is a special feature of Chinese culture (it predominates in Lin's Formosa sample, for instance) I think it is legitimate to suggest that Chinese culture itself has a certain protective action in this direction, a protection which would be most operative among the old.

The above evidence not only supports the suggestion that mental disorder in Chinese old people is low, it offers possible explanations for the observation. Now we must ask whether the much higher rates in young people are high by Western standards, the overall incidence being about equal as Lin suggests, or whether they are normal or low by Western standards, the overall rate being quite low as suggested by the other two surveys. On this point the evidence of medical clinicians and pathologists is useless since we are dealing mainly not with organic but with the endogenous psychoses. Any evidence which we can use must come from psy-

chiatrists and psychologists and from social studies of Chinese youth.

The first piece of evidence which seems to have a bearing is a sweeping statement by Woods who is quoted ⁽²¹⁾ as saying that 'the Chinese are the most neurotic people on earth, more so than the Jews'. Such statements are obviously suspect, but at least it suggests that in Peking, where he worked, there was a large amount of minor mental disorder. Houston, who quotes the statement, apparently agrees with it but points out that the cases seen are mostly anxiety states or forms of neurasthenia ⁽²¹⁾, an impression which is reinforced by the cases quoted by Wu ⁽⁵⁷⁾ at Mukden and the vaguer statements of McLaren in Seoul ⁽³³⁾. From this clinical basis we can turn to the evidence of psychological tests since these tell a similar story but give more details and throw some light on the mental processes involved.

There are nine published and unpublished studies of Chinese personality by means of tests, to my knowledge, and almost without exception they show that the Chinese score higher on 'neuroticism' than the American subjects on whom the tests were mainly standardised. Most of the studies have used the Thurstone Personality Schedule, a now superceded instrument ⁽⁵¹⁾ in which the yes-?-no answers to 223 questions were judged on an a priori basis to be symptomatic or not symptomatic of neurotic tendencies. As such the test is open to serious criticisms both generally - I find it difficult to see why certain questions were chosen or why certain responses were considered more abnormal than their opposites - and culturally, several of the responses being normal for one culture and abnormal for another. Yet although one of the Chinese workers ⁽²²⁾ has argued that the test measures nothing more than conformity to U.S. cultural norms, it has

GROUP	SUBGROUP	Method of Administration	N.	M.	s.d.
A. Students	American (Chicago)	Group	380	34.1	18.5
	" (Dartmouth)	"	200	41.1	21.6
	" (Texas)	"	146	43.2	25.5
	Chinese born in USA or resident 10 yrs+	Correspond.	22	41.6	23.0
	Chinese 3-10 yrs USA	"	37	42.4	20.3
	" 1-3 " "	"	45	47.0	26.9
	" 0-1 " "	"	35	53.5	26.6
	Chinese in Peking	Individual	39	55.3	29.6
	" " China	Correspond.	110	80.8	25.6
	" " N. China	Group	49	91.7	33.8
B. Peking samples, by Occupation.	Teachers	Individual	20	71.7	25.4
	Middle School pupils	"	63	70.7	29.7
	Clerks	"	36	67.0	35.1
	Mechanical trades	"	18	56.7	27.5
	Soldiers	"	58	52.2	31.0
	Officers	"	41	51.1	22.7
	Merchants	"	50	50.8	34.8
	Labourers	"	74	47.5	25.8
C. Peking samples, by State of Health.	'Normal'	"	114	54.2	
	Neurotics a) addicts	"	103	51.1	
	" b) psychosomatics	"	28	56.8	
	" c) others	"	83	67.9	
	Manic-depressive cases	"	17	48.7	
	Schizophrenic cases	"	48	76.8	
	Organic Psychoses cases	"	20	53.0	
D. U.S.A. Psychotics.	Schizophrenia	Individual	26	70.6	35.6
	Manic Depressive	"	56	58.3	29.1

TABLE 10. Thurstone Personality Schedule Scores for various Chinese and American population samples (From 7, 22, 38 & 51).

TABLE 11. Thurstone Personality Schedule Items (abbreviated) which appear in the top 42 responses differentiating high-scorers from low-scorers in Chinese and American Students; samples excluding those items which appear in both lists. (Compiled from 7. and 51.)

group show more stress on anxieties, sexual embarrassment and neuroathenia, whereas the American show more stress on inability to adapt themselves to their environment, and on mood swings and depression (see Table 11).

These differences are in part simple reflections of culture. An American fire, and more bed wetting. At the opposite end of the range, the U.S. students show themselves to be more inclined to withdraw from reality, to avoid or dislike responsibility, to be preoccupied with social failure, and to be susceptible to changes of mood. The items which most strongly differentiate the high-scorers (presumed unstable) from the low-scorers in each group show considerable overlap, but the Chinese high-scoring

<u>In Chinese List, Not American</u>	<u>In American List, not Chinese</u>
<u>Fears</u>	<u>Social embarrassment</u>
Frightened of many things	Gets stage fright
Afraid of falling	Difficulty starting conversation with strangers
Afraid of jumping from heights	Difficult to speak in public
Loses head in dangerous situation	Selfconscious because of appearance
<u>Neurasthenia</u>	Troubled by watchers at work
Easily tires of any work	Worries over humiliations
Gets tired easily	Depressed by low school marks
Not sleeping well	<u>Mood Changes</u>
Heart sounds cause sleeplessness	Interests change quickly
Gets awful pressure in head	Easily moved to tears
<u>Sex</u>	Often in state of excitement
Easily shocked by sex topics	<u>Others</u>
Shy with girls	Lack of selfconfidence
Bothered by blushing	Not quick to help at accident
<u>Others</u>	Frequent daydreaming
Feels mind is being read	Suffers from dizziness
Ambivalent feelings towards family	Worries over possible misfortunes
Believes he is unlucky	Must repeat something several times before finishing it
Find difficulty in sending away salesman	

TABLE 11. Thurstone Personality Schedule Items (abbreviated) which appear in the top 42 responses differentiating high-scorers from low-scorers in Chinese and American Students; samples excluding those items which appear in both lists. (Compiled from 7. and 51.)

group show more stress on anxieties, sexual embarrassment and neurasthenia, whereas the American show more stress on inability to adapt themselves to their environment, and on mood swings and depression (see Table 11).

These differences are in part simple reflections of culture. An American boy is brought up to relate himself sensitively to society, especially the society of his peers, and is taught relatively little regard for his family. Also, he is taught to assume responsibility, perhaps too early, and to be open and natural in his behaviour. The Chinese boy of the period we are considering was brought up to be strongly orientated on his family, to regard the rest of society as of relatively little importance except in person-to-person contacts, to be restrained and proper in his behaviour, and was given little or no experience of responsibility (5,29).

It is natural, therefore, that the questions which are most strongly reacted to by the Americans should be those relating to society, just as those reacted to most strongly by the Chinese should relate to family and to control of impulses. But the fact that culture is reflected in these answers does not mean that they show nothing else. The items in table 11 show very strongly the responses which these different cultural situations receive and the types of breakdown which we may expect in them. The weak-egoed American youth finds difficulty in meeting the multiple demands of a complex society and responds either by assuming some special relation in regard to them - hysterical neurosis - or by withdrawal into day-dreaming and in the extreme into schizophrenia. The weak-egoed Chinese youth finds difficulty in controlling his own impulses in relation to the simple but over-rigid society of his family, and at his age still feels insecure there, so that he responds either by a general inhibition of all personal impulses - neurasthenia - or by a generalised state to which it is probably justifiable to apply the term 'castration anxiety'. Of the two situations our current psychiatric theory would lead us to expect

more serious disturbance from the latter than from the former, since the latter deals with a more elementary and chronologically earlier problem. Hence we have one more reason for believing that mental disorder in Chinese youth is likely to be more prevalent than in the youth of Western cultures.

Two questions arise from this conclusion. One is whether this disturbance exists only at a minor level - the neuroses which do not reach the mental hospitals of the type from which we have been getting our data - or affects the psychoses also. The other is why such disturbance apparently affects mainly youth and does not cast its shadow over the whole of adult life in the way in which we expect childhood-generated neuroses to do.

The first problem is largely answered by table 12 which shows that Chinese psychiatric patients are conscious of more anxiety and less withdrawal than their American equivalents, indicating that the type of disturbance found mainly in the more disturbed by still "sane" Chinese students extends into the life of the Chinese psychotic. This is not merely a test finding; the clinical psychiatrists, with more or less recognition of the problem, also remark on the presence of anxiety in their psychotic patients, and on cases in which the division between psychosis and neurosis is hard to find. Schaltenbrand writes:

"In den nächsten gruppen fasse ich eine reihe gleichartiger Fälle zusammen, bei denen man in der Diagnose zwischen einer hysterischer Reaction oder einer Prophebeaphrenie schwanken könnte. Diese Kranken zeigten schizophreneartige Symptome, machten aber einen mehr oder weniger schwachsignigen Eindruck. In allen Fällen war der Ausbruch der seelischen Störung sehr deutlich durch ein äusseres Ereignis ausgelöst."⁽⁴⁴⁾

And one finds that about one fifth of the forty cases he cites show some

American Psychotics

Worries and Anxieties

Many things frighten him
Wake up at night frightened
Things go wrong for no reason

Self-Consciousness

Troubled by shyness
Hesitates to volunteer recitation
Self-conscious of appearance
Touchy

Neurasthenia

Isolation

Difficulty making friends
Books more interesting than people
Does not like company
People think him selfish
Not interested in meeting people

Paranoid Feelings

Dislikes many people
Knows someone hostile to him
People make fun of him
Wants to get even with someone
Distrusts people

Family Instability

Mental disease in family
Parents partial to siblings
Considered bad when he was young
Not happy childhood
Mother dissatisfied with life
Home life not happy

Others

Feels awful pressure in head
Has facial tic
Once seen a vision
Ignorant of sex
Cranky about food

Chinese Psychotics

Worries and Anxieties

Worries over possible misfortunes
Worries over humiliating experiences
Loses head in dangerous situation
Fears contracting disease
Cannot stand sight of blood
Afraid of going insane
Easily moved to tears
Finds life great burden
Suffers from feelings of remorse
Easily hurt
Unsteady when crossing street

Self-Consciousness

Shy with opposite sex
Bothered by blushing
Feelings of inferiority
Not confident of abilities
Self-conscious when reciting

Neurasthenia

Absent minded
Easily discouraged
Tires of work easily
Gets dizzy spells

Isolation

Frequent day-dreams
Day-dreams about improbable
Crosses street to avoid person

Paranoid Feelings

Thinks people are self-seeking
Thinks others criticise him too much

Others

Feeling of unreality
Loses temper easily
Bothered by particular useless
Thought
Feelings alternate day to day
Says things on spur of moment

TABLE 12. Thurstone Personality Schedule items (abbreviated) scored highest by Chinese Psychotics or distinguishing American Psychotics from American Normals and Psychoneurotics; excluding (a) items found in both lists, (b) items meaning virtually the same as others already mentioned, and (c) some items scored high by all Chinese, e.g. necessity to watch health. (8 & 38).

be used, and there would be a sense of insult if the host or guest did not follow the prescribed form.

such mixture, although not all are included in his afore-mentioned category, a fact carrying more significance since only the most disturbed cases were brought to the hospital where he saw them. Some of these cases recover quickly; others initially indistinguishable follow a full psychotic course, and in all it is difficult to distinguish true psychosis from panic reactions induced by generalised anxiety. Either way they get included in the mental hospital reports and hence in the curves and tables we have been using here, though under what diagnoses it is difficult to guess. leaving the house the previous day) but must accumulate until it explodes. But the problem of nosology in these cases is less interesting than the question of why these particular forms occurred. And the answer, I think, can be linked with the question of age distribution. 's debts on New Year Chinese culture puts a quite remarkable emphasis on what might be called propriety*. The acquisition of proper modes of behaviour and of proper attitudes in a certain limited number of situations is strongly linked with the strength of the family cult and, one might even say, with the strength and longevity of Chinese civilisation. Like certain religions, filial piety and social behaviour are inculcated not by the teaching of general principles so much as by reiterated practice. The effectiveness of this method of education or perpetuation of belief is well known, as are

for impropriety or failure; they might even be more since the persons

* The word "Li" which is so important in classical Chinese teaching has been been variously translated as propriety, etiquette and ritual or rite. The Confucian "Book of Li", which was still used as a text in Chinese schools at the time we are considering (the 1930s) contains a set of rules of behaviour such as: "When you enter a house with a guest, you should request him at every door to enter first, but when the guest arrives at why the bedroom you should ask permission to enter first to arrange the seats. When the seats have been arranged you should come out to welcome him in. ion. At this moment the guest should decline to enter first and so you respectfully accompany him in". (5) And so these rules would continue to be used, and there would be a sense of insult if the host or guest did not follow the prescribed form.

its weakness. The spirit behind the teaching tends to be forgotten - or never taught -, the tradition does not allow for a change in circumstances, an incorrect response comes to have the same sort of negatory or harmful effect as reciting a magic spell in the wrong order or taking Christian communion without fasting, and the rules tend to have an all-or-none application. Thus any feeling of rebellion or aggression cannot gain partial expression (I had a Chinese student patient who came for psychiatric help because he had not greeted his father in the proper manner before leaving the house the previous day) but must accumulate until it explodes, and a similar intolerable frustration may ensue if no substitute expression for one's obligations can be found and the orthodox way is blocked. The Chinese merchant who cannot repay his last year's debts on New Year's Day was not permitted traditionally to make a partial payment or go bankrupt; his only traditional alternatives were to commit suicide or to disappear from the locality, and apparently suicide was not uncommon in these circumstances. The social system allowed no half-way measures; in certain defined fields of life one either did the proper thing or one did the improper thing, and the only protests one could make against the situation were to attempt suicide or to commit mental suicide by becoming insane. These drastic measures were the acceptable measures of atonement for impropriety or failure; they might even be more since the persons considered to have driven the individual to this extreme would often be censured publicly or even through the law. We now see why attempted suicide, especially in young men and women, was so common in China, and why psychotic episodes were apparently often the result of a neurotic situation. Clearly no half-way mental breakdown would suffice; it had to be a complete

* When no psychiatrist is available in such countries and the prison-like hospital is connected with the police there may be great fear of letting a patient out again once he is committed, and hence there is a greater hindrance to recovery than usual.

denial of responsibility or a complete removal of the self from the situation. Such failure in one's own eyes or in those of outsiders was the same as loss of 'face' which therefore became another reason for mental breakdown. Schaltenbrand writes:

"bei schweren Gesichtesverlust kommt es häufig zu hysterischen Reactionen, wie Toben, 'spielen des wildes Mannes', oder auch Besessenheit durch die Geist eines Verstorbenen. So sah ich einst einen hohen Offizier, der auf ein Bahnfahrt einer grossen Summe Geldes beraubt worden war. Die weitere Reise verlief ohne Zwischenfälle. Aber nachdem er die Schwille seines Hauses überschritten hatte, began er zu toben, zu schreien und an sich zu schlagen, so das er von mehreren Männern gehalten werden musste und als Geisteskrank ins Krankenhaus eingeliefert wurde. Am nächsten Tage beruhigt er sich und hatte der Eisenbahnfahrt und sein Unglück vergessen." (op.cit.)

This, I think, helps us to understand the occurrence of such neurotic-psychotic cases, and just as some of the attempted suicides might inadvertently be fatal, so some of these mental breakdowns might become permanent.* It also, I think, helps us to understand why such childhood induced disturbances affect mainly the late adolescent and young adult phase and do not spread over the whole of adult life.

The teaching of morals as a form of etiquette results in strong situational pressure, but slight abstract pressure. That is to say, there is strong pressure on the individual to seek and follow the 'proper' mode of behaviour in specific situations, but almost complete release from that pressure when one is away from the situation (we do not normally worry about how to greet a member of royalty except when such a possibility is the responses indicating anxiety and tension which had been scored quite imminent). Also, the correct response becomes automatic with practice and it is only in the learning stage that we are conscious of the problem. Hence although the anxiety to behave properly is deeply rooted in the Chinese child and will be aroused by any inclination to express himself in patients show, the same anxiety breakdowns can still occur in an older

* When no psychiatrist is available in such countries and the prison-like hospital is connected with the police there may be great fear of letting a patient out again once he is committed, and hence there is a greater hindrance to recovery than usual.

an untaught and hence possibly improper manner, the situation does not live with him and continuing practice makes each response more automatic and less anxiety-producing. On the other hand such teaching does not give foreknowledge of the correct response in a hitherto unexperienced or untaught situation and each new type of experience is likely to be anxiety-producing until its response is mastered. The weight of the system thus bears most heavily on that period of life in which Chinese youth must meet and handle a flood of new experiences, both experiences within themselves of feelings they had not hitherto known that they possessed, and experiences in their suddenly widening environment. Anxieties rooted in a disturbed or over-strict childhood will be re-awakened at such a time, but they will be almost as rapidly stilled again as practice leads the adolescent or young person to handle these experiences. Hence the highest age-specific rates in the curves in Figure VIII are for the age 15-20, both sexes. Once ability to handle these new experiences is acquired, however, the advantages of the system greatly outweigh its disadvantages as collective family responsibility shelters the individual from excessive strain and increasingly adds to his emotional gratifications as he gets older. It is not only major disorders which decline rapidly with increasing age; it is also the anxiety states. In Pai's test data of older Chinese subjects some of the responses indicating anxiety and tension which had been scored quite high in the student groups are found to have dropped to the bottom of the lists - being frightened of many things and having an inclination to set things on fire, for instance. As Schaltenbrand's coolie and officer patients show, the same anxiety breakdowns can still occur in an older person, but it takes a much greater external stress to produce it.

Practice relieves the Chinese adult of some of the anxieties which the rigidity of his culture induces, but the inhibitions which it imposes remains, and we can appropriately turn our attention to two mechanisms for the handling of this general inhibition. One is its release by alcohol; the other its reinforcement through opium; both drugs widely used in China. In classic Chinese novels one frequently comes across alcohol being used after some insult or tension-creating situation to permit the person to release his feelings, and several (12,44,45,56) psychiatric writers have commented on its heavy and wide consumption. The idea of opium being used to reinforce inhibitions is a less familiar idea, but one cannot avoid being struck by the similarity between the neurasthenias so commonly reported in Chinese youth and the opium addiction states so widely known in Chinese of older years. I therefore offer the hypothesis - nothing more - that the wide use of opium among the Chinese, compared with its slight use in Indians (outside the military castes) may be connected with the rigidity of the former's culture. It is not the question of addiction which leads me to bring in this point here, however, but the relative absence of serious psychiatric sequelae as evidenced by mental hospital admissions. Returning to our main theme and to the data in Table 4 we find that opium psychoses are hardly ever mentioned in Chinese mental hospital reports, while alcoholic psychoses are relatively rare. The existence of the former condition is somewhat confused, some people - including myself - believing that it is only the withdrawal of opium which causes psychosis, not its use. Hence psychotic disturbances in addicts may easily be more common in a country where cases were chronic alcoholics rather than psychotics. It thus seems as though the terminology might be differently used there.

where addiction is limited but the drug difficult to obtain than in a country like China where addiction was widespread but the drug abundant. If there is such a thing as a toxic psychosis caused by opium addiction, however, then one must suspect the Chinese of having a special resistance to it, so seldom does it occur despite the wide use of the drug.

Of the existence of an alcoholic psychosis there is no question, so we must seriously consider why the Chinese rates are so low. With one exception* all reports I have read on the diagnostic distribution of mental disorder in the Chinese agree on the point, both from China itself and from overseas groups. Particularly striking are the Hawaiian data given by Wedge, since there were no cases of alcoholic psychosis at all in the Chinese whereas the average in the other ethnic groups there (but mainly the Caucasians and part-Hawaiians) was quite high. One explanation that has been offered is that the Chinese drink rice-spirit which may contain more vitamin B, but this was not specially true in Singapore. And certainly it is not because they drink too little, which is the alleged reason for the low rate in Jews. A racial and a cultural hypothesis both seem possible. Regarding the latter, it seems possible that the development of psychosis during the over-use of alcohol may be linked either to guilt feelings about its use (see p.253) or to unsatisfied dependency needs. Neither of these problems are likely to appear in Chinese patients, at least in their normal milieu where alcoholism is not regarded as sinful and where dependency is rather something that has to be

* The exception is Bangkok⁽⁴³⁾, where 7.3% of Chinese first admissions and 7.9% of Thai were labelled alcoholic psychosis in 1953. However, only 2.5% of the 1952 admissions were given this diagnosis and Ratanakorn⁽⁴⁰⁾ in his analysis of the 1953 cases seems to indicate that four-fifths of the cases were chronic alcoholics rather than psychotics. It thus seems as though the terminology might be differently used there.

escaped from than something that is given no opportunity to be lived out. However, I can cite no data in support of these hypotheses (one might have expected alcoholism in overseas Christian Chinese if they were true) whereas there is a little support for an organic or racial hypothesis.

The question is similar to that of arteriosclerosis, although the evidence is slighter. Woods (56) reported that he had seen no alcoholic neuritis in the neurological group of 4,000 Peking patients, and no lead neuritis. Van Loon in Java reported (52) that malarial and other infectious psychoses (but excluding syphilitic) were lower in the Chinese than in the Javanese. At the same time Frazier and Li (13) show that meningitis in the secondary stage of syphilis is much commoner among infected Chinese than among infected Caucasians or Negroes, and the data from Wullften Palthe summarised in Table 13

suggest that, at least under immigrant conditions, the incidence of the more serious neurological disorders among the Chinese was relatively high. Whether

	Skin Clinic	Neurological Out-pat.	In-pat.
Chinese	98	4.1	2.5
Malaysians	94	2.5	1.1
Europeans	?	10.3	3.1
RATIOS			
Chin./Mal.	1.04	1.64	2.27
Chin./Eur.	-	0.41	0.81

these diverse data suggest any common characteristic I am not sure, but it is my

TABLE 13. Patients per 1,000 pop. at three clinics in Batavia; 1932-33; by ethnic group. (Recalculated from figures given by Wullften Palthe (37)).

impression that a racial difference in resistance or response to different type of cerebro-spinal disturbance is shown, and if this is the case then such differences might easily extend to the alcoholic psychoses.

There are two remaining points on which the Chinese material can afford us some information - the comparative incidence in the two sexes and the comparative incidence of the manic-depressive psychoses.

The comparative sex data show little that is exceptional by Western standards*. In the Peking sample (Figure VIII) the female rate runs above, but not much above, the male until early middle age, when they mix or cross. This relationship may possibly be a false one, since the sex ratio in Peking was exceedingly unbalanced and the women there were possibly an unrepresentative group; but the ratio gains confirmation (30) from Formosa. In the diagnostic tables there is the customary excess of female cases over the male in the manic-depressive and neuroses groups, the customary excess of males over females in G.P.I. and some other organic psychoses, and in the matter of schizophrenia there is some irregularity in the sex ratio, just as there is in other countries. In considering the excess female rate in the younger age groups the key is presumably the fact that the woman must leave her own home when she marries and must adjust herself completely to people whom she has never previously met and who have by tradition a certain limited right to bully her. Almost all the earlier writers mentioned the frequency of breakdowns in young

* Genetically the Chinese seem to possess less marked sex differentiation than Caucasian peoples. The distribution of male hair, the tendency of the women to baldness, and the feminine tendency of the male skeletal structure are all fairly obvious and have been often commented on. Wood Jones⁽⁵⁵⁾, for instance, noted that authenticated male skulls in Peking would have been taken as female by most Western anatomists. Psychologically also it is possible that there is basically less differentiation, for in one psychological testing⁽⁴⁶⁾ of school children it was noted that there was no difference in male and female means, although in other countries such difference is consistently found. However, the markedly differential treatment imposed by their culture more than compensates for any such genetic similarity and hence the fact is not relevant to the present problem.

(25,42,45,etc.) ;

women about to be married or recently so, and in young concubines and from what has been said above about mental breakdown as a form of protest it may be presumed that some of such cases will be of that nature. Once settled in her new home, however, the woman's lot is in general much easier. The main thing she has to fear is not bearing a male offspring, for if this happens she is very liable to be despised by her husband's family and to be supplanted by a second wife. The subordination of the female to the male is much less in Chinese culture than in some neighbouring ones, the Hindu or the Japanese, for instance, and is much less rigid than the subordination of youth to age. In a batch of folk-plays quoted by Gamble (16) the theme of rebellion of youth against age or the striving of a young man to gain his independence is never mentioned, but the hen-pecked husband, the lovers who manage to marry despite the girl's parents' opposition, and even the cuckolded old man with a young wife are obviously quite popular. Around Canton (where manic-depressive reactions are reported much commoner than schizophrenia) there has for a century or more been a tradition of rebellion by young girls against forced marriage, special spinster organisations growing up which the male administration of the province apparently tolerated (2,39). In later life, provided the male offspring has been born, the woman's life gets much easier, and she becomes accorded almost as much respect in her old age as the male, becoming the head of the household in some cases and certainly not being expected to act as servant to her sons in the way we will find is common in some parts of India.

The main point about the manic-depressive psychoses is their increasing incidence relative to schizophrenia as one goes from north to

south, thus paralleling the distribution in Europe. The lowest ratio occurs among the Manchu in Mukden and Peking and with some irregularity it increases until one reaches Canton where over many years a steady excess of manic-depressive over schizophrenic cases was maintained. The ratio of manic to depressive admissions is unfortunately nowhere recorded, but there is no doubt that depressions are common, especially among women, and Hoffmann (quoted in 26) has given the interesting information that the mean age of admission for depressives was 22, compared to 25 for manic cases and 18 for schizophrenia, rather different than those we are accustomed to. Involutional melancholia is also listed among the Chinese, having been especially recorded in Canton. All this is quite in conformity with what one would expect in relation to the cultural background, but something needs to be said about guilt feelings in depression, since in Europe the two things are rather assumed to go together.

Among various classifications of culture is one which divides them into 'shame' cultures and 'guilt' cultures on the basis of the internalised form of social control customarily found. Another way of saying the same thing is to divide them into those who 'repress' and those who 'suppress' unapproved urges (23). Chinese culture has been classified as a 'shame' one since, as we have seen, their moral teaching is situational, stressing appropriate behaviour in specific circumstances rather than more general 'sets' towards wide categories of situations or towards abstract concepts. At the same time it would be wrong to regard the Chinese wholly as having a 'shame' culture, since in certain fields it is a general 'set' which is taught, dominating not only behaviour but also thought. The

obvious instance is regarding filial piety, so that most well educated Chinese youths would probably have been shocked to find in themselves unfilial thoughts, but guilt may be much more general, depending on the type of teaching received. In such circumstances there is no clear boundary between guilt and shame but the latter still dominates. Most of the Chinese depression cases for which details are given, therefore, turn out to be connected with loss of someone or loss of 'face' but not with guilt, though Lin records two cases in his 214 samples which had

delusions of guilt, and in a special reading of 75 cases in Singapore I found one with definite guilt feelings. Delusions compounding guilt with religion are also very rare among the Chinese since Chinese children are very rarely taught to regard gods as punitive or as demanding atonement for sin. It must be remembered therefore that though duty is strongly emphasised in Chinese culture and depressive states are relatively common, depressive states combined with feelings of guilt and of failure in duty are relatively rare.

We can now turn to consider how this basic Chinese pattern gets modified after migration, using mainly Singapore material but also from other sources.

The first point to discuss is the relatively low level of in earlier periods were not less low in relation to those of the other immigrant groups, and were sometimes lower than the Malaysian (Table 5) as well. In the second place we have an interesting report regarding a migrant group who could in no way be considered to be at home in their surroundings, the Chinese Labour Corps who were employed in France during the 1914-18 war. Approximately a hundred thousand Chinese labourers were transported at that time to a country very distant from their own

hospitalisation, both in Singapore and in Hawaii (Table 14). Whether we

Group	Adult Pop. 1950 Census	Rates per 10,000 per Annum				
		Queen's Hosp. '47 Admiss. (62)	Territorial Hospital First Admissions 1951 (49)			
			Male	Female	Schizophrenia	Other Psych
n	9,189		16.8	20.3	3.3	15.2
waiian	36,132	9.0	10.0	6.8	3.9	4.4
an	68,213	13.5	10.2	5.3	2.1	5.5
	22,828	8.3	8.3	4.7	2.2	4.4
	43,202	13.0	18.2	13.1	4.6	12.5
	(18,000)	22.8			(11.5)	(5.7)
apanese	(101,616)	8.5	8.7	7.0	(4.2)	(2.1)
Ricans	(6,700)	11.9)				
	(4,900)	20.4)	- 24.8	19.1	7.1	15.1
	(1,000)	50.0)				

4. Mental Hospitalisation rates for different Ethnic Groups in Hawaii, Psychoses only. The Hospital is for acute and lighter cases, the Territorial for more chronic; the data latter refer to first admissions only, for the former to first and subsequent.) (Rates for Queen's differ from Wedge's original figures have used more reliable census data than he possessed.)

take crude rates or standardised ones we find that the Chinese have the lowest overall rates of all immigrant groups in these two territories, and rates of the more serious disorders which are comparable with the lowest. Of course, it can be argued that Singapore, and some parts of Hawaii, are virtually Chinese cities so that the Chinese are more at home in them than anyone else or are longer settled there, as Wedge suggests. This is true, but it does not seem to be very relevant. In the first place historic data from Singapore show that the Chinese rates in earlier periods were not less low in relation to those of the other immigrant groups, and were sometimes lower than the Malaysian (Table 5) as well. In the second place we have an interesting report regarding a migrant group who could in no way be considered to be at home in their surroundings, the Chinese Labour Corps who were employed in France during the 1914-18 war. Approximately a hundred thousand Chinese labourers were transported at that time to a country very distant from their own

where language, custom and most of the appurtenances of life were very strange, where the populace mostly thought them savages, and where a war was being waged in which the Chinese had no concern or interest. The labourers were organised in semi-military formations where behavioural abnormalities were unlikely to pass uninvestigated, and they had their own very large field hospital which had a special psychiatric wing with apparently a sufficiency of beds. Under these circumstances the hospital records show 335 psychiatric admissions over a period of two years from approximately 100,000 able-bodied male labourers, and a discharged rate of 65%, many of the cases apparently being reactive depressions.* This rate of hospitalisation compares quite favourably with the current British rate of 151 admissions per 100,000 males, aged 20-40⁽⁴¹⁾, or with the French rate of 172 for the same age group⁽⁹⁾, so that when we consider the strangeness of their surroundings it seems as though the Chinese must have been relatively unaffected by them.

This conclusion is probably wrong, for something much more interesting had probably happened. In Chapter 6 we will discover that the incidence of mental disorder in Chinese born in Singapore is not lower than the incidence for those who have migrated there, but that there is quite a difference in the type of disorder found in the two groups, matched for age, and that there is a similar difference between the migrant communities and the homeland. Finally there is a marked difference in the age

* Relapses in the reactive depression cases were quite frequent when such cases were returned to the conditions which had precipitated the disorder, but if such relapsing cases were found employment within the hospital, where their background was better understood, they proved to be steady, satisfactory workers, and the number of cases repatriated seems to have been small. (op. cit.)

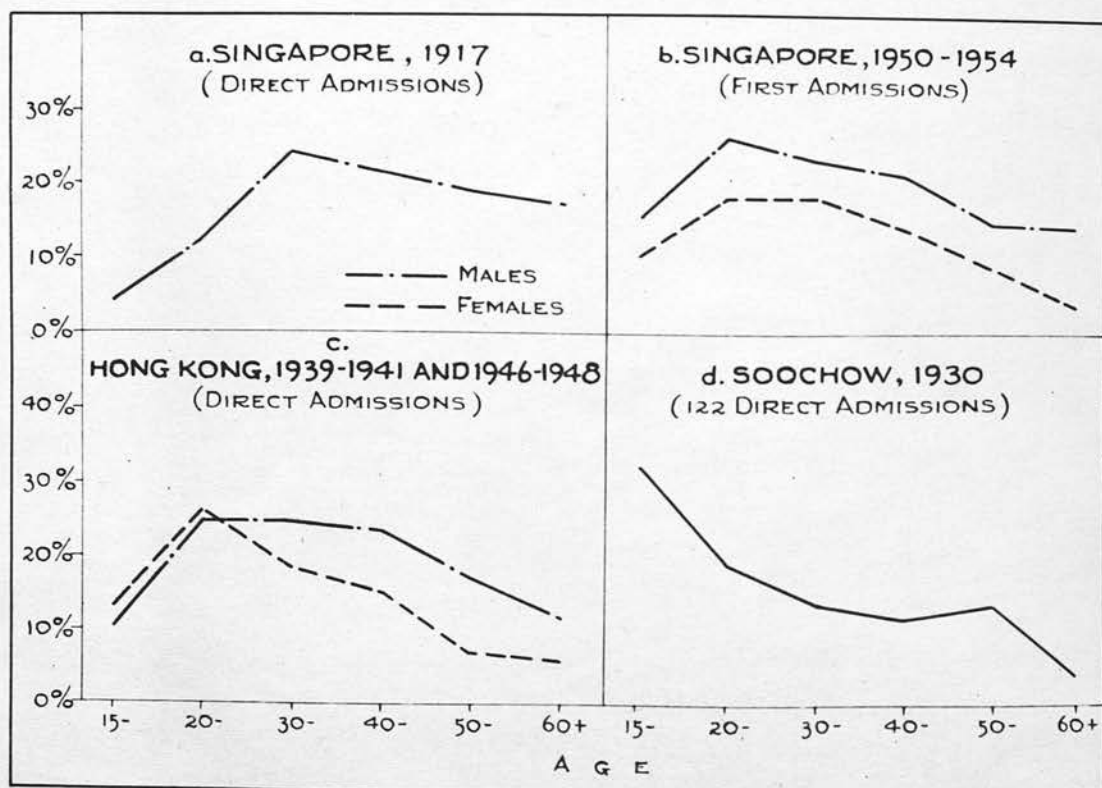


FIG. IX. Percentage Distribution of Chinese first Admissions to Singapore mental hospital, 1917 and 1950-54, by age, as compared with Hong Kong and Soochow (China). (Soochow curve from previous figure; Hong Kong data from (59) and (50); method of comparison as in previous figure.)

and sex distribution between migrant groups and homeland ones. It seems probable, therefore that migration does increase some forms of mental disorder in the Chinese, but reduces the incidence of others.

Figure IX shows the age and sex distribution of mental hospital admissions for Hong Kong* (which should be regarded as having a migrant population even though it is so close to the mainland) and for Singapore at two quite separate periods. We see that the slanting, concave incidence curves found in the mainland have been changed into convex curves having no single trend with age. It does not seem possible to account for this change in terms of available hospital beds or of difference in hospitalisation practices; the difference seems almost certainly to reflect a real change in the attack pattern.

The obvious differences are that there is proportionately much less disorder in adolescence and youth, that there is proportionately more disorder in middle age, and that the female rate is now further below the male. The difference from the homeland pattern is greatest in the 1917 Singapore curve, when the population was almost entirely migrant and far from home, less in the 1950 Singapore curve when the population is partly native born and has rebuilt some traditional forms of living, and least in Hong Kong where although the population is largely immigrant they are not far from their homesteads and carry much more of their own traditions with them.

The diagnostic breakdowns (Tables 9 and 14) expand this picture,

* I have not used the Hong Kong data in discussing rates of total mental disorder, because at the time of writing the number of psychiatric beds there is quite inadequate. This very fact, however, supports the assumption that hospitalisation facilities are not the main cause of the difference between mainland and colonial patterns.

but make it clear that there is a difference between overcrowded, materially impoverished Hong Kong and opportunity-rich Singapore, Hawaii and Malaya*. In Hong Kong the notable feature is the marked increase in paranoia which is shown as about 8.5% of the first admissions in Table 9 but actually amounted to 18.3% of total admissions in 1952. In comparing such percentages one has to allow for variations in nomenclature, and a case which may be called paranoia in one hospital may be called paranoid schizophrenia in another, and simple schizophrenia in a third.** However, paranoid schizophrenia is rarely mentioned either in Singapore or in reports from China, and a reading of case records reveals very few where such diagnosis would be appropriate. I think, therefore, that some of the difference may be genuine, though possibly specially related to the years covered when Hong Kong was crowded not only with normal immigrants but with political refugees. In Singapore, Malaya and to a lesser extent Hawaii the striking feature is the increase in organic type psychoses, both arteriosclerotic and toxic confusional (though G.P.I. is relatively unchanged). The Hong Kong patients also show a relatively high percentage of reactive depression states or neurotic depressions, such as

* I have not cited any actual data from the Central Mental Hospital in Malaya here, because the form in which their figures are published is unsuitable, but there seems little doubt that the patterns found there are very similar to those found in Singapore.

** Dr. P. M. Yap, the medical superintendent at Hong Kong, writes me on this point: "I must state that my habit has been to label cases as 'Paranoid state' (hardly ever Paranoia) when I see prominent or sustained delusions of persecution without formal schizophrenic thought disorder etc. Also I would call cases like these paranoid states if there is an intelligible relationship of the illness to environmental stress." In Singapore, however, only 24% of Chinese cases showing delusions or hallucinations had ideas of persecution, which would make such cases much less than the 18.3% of all cases which Yap found.

were found in the Labour Corps in France, these comprising 7% of total admissions compared with less than 1% in Singapore.

We thus find that although Singapore and Hong Kong admissions today show very similar age curves and a similar change from the mainland curves, these developments are probably not due to a single simple process. Moreover, what we know about immigration strains in other lands (10,34) suggests that they fall equally heavily on all adult age groups so that if we were dealing only with a general immigration strain we should get a higher incidence at all ages but no change in the shape of the age curve. Our curves, however, show very definitely that there is a marked relative or absolute drop in the incidence of younger cases, and possibly a drop in the incidence of female cases. In these special groups, therefore, it seems highly probable that migration relieves from mental strain more than increases it.

This suggestion is in a sense surprising, since we had earlier come to the conclusion that the excess of cases among the youngest age groups in China was linked to the flood of anxiety-fraught new experiences which the young person must learn to handle. And migration is surely a more drastic new experience than any other. One explanation for the paradox would be that we are really dealing with two different populations, the student group from whom the psychological data were collected being essentially gentry while the migrants are mostly from the proletariat. This is partly true, but does not solve our problem. The hospital cases from which our original curves have been drawn were not mainly gentry and the student population, at least as studied by Olga Lang (29), contained many lower class. Moreover it has been argued (24) that the Chinese gentry were not a self-endeavour to follow the prescribed superficialities of behaviour while breaking both law and custom.

perpetuating class, but an ever-replenished one with much vertical mobility so that the Confucian teachings which they maintained penetrated the lowest class as well*. Another explanation is that migration experiences in some way fall outside of the category which are anxiety producing. This I think is the more likely. The process of migration as the Chinese organised it offered relatively few new experiences at the beginning, possibly fewer than going to a university would bring, but still permitted some loosening of these traditional ties which we found to be pressing so heavily on mainland youth.

Chinese migration originally started through trade, the establishment of branch offices in overseas ports, and a flow of migrants through these contacts, the newcomers being either relatives or possessing some other connection with one of the earlier pioneers. As with everything else it was the family link which dominated these channels, from the decision to migrate in the first place to the chances of final economic success, even though this link might be in places exceedingly tenuous or quite fictitious. For a young man (or woman) emigrating under these circumstances the experienced change, apart from the journey, might be no more than if he had taken a job with his uncle in the next town, except that there was less likelihood of his parents learning of his daily behaviour. The life in the first years was usually narrow and hard, and problems of propriety and social intercourse such as bedevil the college students are

* Cheng⁽⁵⁾ and the foreigner Hardy⁽¹⁹⁾ both remarked that it was enough when bothered by lower class ruffians to say "Do you not know 'Li'" or "Did your parents not teach you proper behaviour", for them to feel ashamed and to ask pardon. It is also amusing in classic epics (which were not composed for the gentry but for the people) to note how the poorest thief would use the correct forms of address to his victims and endeavour to follow the prescribed superficialities of behaviour while breaking both law and custom.

* "South Seas", i.e. most of S.E. Asia.

likely to drop into the background. The following history is not atypical:

"I came to the Philippines in 1901, when I was 15 years old. I entered a dry-goods store at R., where I worked as a 'newcomer'. I used to get up at five o'clock, then immediately went to the kitchen to heat some water which was to serve the master for his morning wash. Then I prepared and served him tea. After that I swept the floor, dusted the cases and opened the store at six o'clock. Being an employee of less importance I had to take my meal at the second or third sitting when the soup and rice were cold and the dishes sometimes were almost emptyMy salary was advanced from the zero point to five pesos a month after the first year, to ten pesos after the second and to fifteen after the third year. Of course I could get along with so small a salary because I had practically no expenses, the employer supplying food, lodging, laundry, haircuts and practically everything else that was needed. The only expense I had was that of sending money to my parents in China. I could have no treats and could attend no shows or amusements. I was practically shut off from the outer world.....The only holiday in the whole year was Chinese New Year, which we enjoyed immensely". (Later when he became a shopkeeper himself he records that his employees had to work fourteen hours a day, which is therefore probably the same as he himself did at first.) (Recorded by Ta Chen (49).)

In China itself the density of population and the predominantly agricultural nature of employment meant that there was a general under-employment and even the poor had time to think about social relationships. In the lands of resettlement, either the opportunity-rich Nan Yang* or the fiercely competitive, semi-industrialised Hong Kong, there might be unemployment but no underemployment in the same sense and full work was needed for material benefit. Hence presumably less attention was paid to the proper modes of social intercourse in the latter places and the young migrant must quickly have discovered that the etiquette which had been taught him in childhood and which was the basis of most of his anxieties was not so important any more.

The same reliefs experienced by youth were probably experienced by women, provided they stuck to their traditional role. In the new countries there was a great shortage of Chinese women, there were virtually

* "South Seas", i.e. most of S.E. Asia.

no mothers-in-law or relatives to have to submit to, and the opportunities for female employment were such as to provide an escape from marriage should the husband be too domineering. Hence in those subgroups of the Chinese community in Singapore where the tradition is still retained of the woman keeping to her home the female rate is at present almost half the male (Table 15), all the advantages of tradition having been retained

	M A L E S							F E M A L E S					
	H	T	C	K	HL	Hc	O	H	T	C	K	HL	O
so.	14.3	9.5	12.5	19.4	11.4	14.7	5.4	7.1	7.6	8.5	10.9	9.6	16.5
Cycl.	4.8	5.6	4.2	10.2	7.5	4.9	5.4	2.1	1.6	4.1	4.0	4.8	0.8
essive	2.9	3.0	4.4	6.6	1.8	4.9	0.9	2.4	2.0	3.3	2.9	5.3	3.3
Sen.	2.2	2.8	2.0	4.9	3.9	5.9	7.3	1.5	2.5	3.8	5.8	3.2	0.0
Org.	10.1	9.3	15.8	14.6	12.3	13.8	18.3	4.0	4.1	6.7	5.8	3.2	5.0
rs	7.0	7.4	7.9	9.8	5.2	7.8	2.2	4.3	3.3	7.6	8.5	7.6	1.7
AL	41.3	37.6	46.8	65.5	42.1	52.0	39.5	21.4	21.1	34.0	37.9	33.7	27.3

15. Mental Hospital 1st admission Rates, Singapore, 1950-54; Chinese only; by Sub-group, Sex, and Main Diagnostic Category. Dialects:
H= Hokien T= Teochui C= Cantonese
K= Hakka HL= Hailam Hc= Hokchew
O= Other specified dialect or subgroup

while much of its disadvantages were left behind. On the other hand Chinese women who seek employment outside of their homes and thus break with tradition much more drastically, whether they have husbands or not, become exposed to just the same migration strains as the males, so that we find the pattern of mental disorder in Cantonese and Hakka women in Singapore very similar to the male pattern here, and their overall rate of mental breakdown is almost the same as that of the lowest male rates. Further, we see in Table 16 that when there were very few Chinese women

in Singapore compared with men, so that they did not have a normal social milieu, their rates were often just as high as the males'.	Dialectal	<u>1889-93</u>		<u>1898-1903</u>		<u>1907-14</u>	
	Subgroup	M	F	M	F	M	F
	Hokien	0.9	0.7	0.7	0.8	1.3	0.5
	Teochui	1.8	1.1	1.1	2.6	1.5	0.7
	Cantonese	1.4	2.2	0.6	1.9	1.2	1.5
	Hakka	4.6	1.9	3.0	1.3	3.6	1.3
	Hailam	1.6	-	0.7	-	2.7	0.3

As with the women, the male Chinese rates in Singapore prove to be quite strongly affected in later life by the question of whether traditional family support patterns have been retained or regained, or whether tradition is more drastically broken with. This does not mean simply a question of getting married or remaining single, as it might with European migrants, for Chinese familism is a much more complex thing than just creating a family. As we have already noted, those patients coming from extended families in Singapore showed very much less organic type psychosis than other patients, and we will also see later that the overall incidence from such families is probably lower than from other forms of household. But it is not only the true extended family which appears to afford the Chinese protection; other forms of related social group apparently assist also. In Chapter 8 we will find that the incidence of mental disorder in Chinese domestic servants is low compared to most other occupational groups, a state of affairs which does not apply to Indians but does apply to Malaysians for whom the family has a similarly peaceful, supportive, meaning. In Chapter 10, again, we will find that 'kongsis' or clubs in which the mutually supportive function of the extended family is imitated

TABLE 16. Chinese Mental Hospital Residence Rates in Singapore; by sex and Dialect; for three separate periods in the past. (These rates refer to patients in hospital at the end of the year, not to annual admissions.)

show a low proportionate incidence of organic type psychoses just as the extended families do, even though the ties are looser and marriage is lacking. These kongsis probably have an overall rate of mental breakdown considerably below that for the single-person-household group, though probably higher than for families. The type of disorder which is most affected by this question of family support is, as I have stated, the organic reaction type, especially the arteriosclerotic and senile. Hence in Singapore it would seem that the degree to which the male psychosis pattern in middle and old age deviates from that found in China depends on the deviation from the traditional family pattern which the immigrant situation has forced on them. (In Hong Kong, similarly, Dr. Yap tells me that a majority of his cases are post-war immigrants who had come in search of work, many leaving behind them relatives partly dependent on them for support. Apparently, therefore, the migrants who had left their families behind were contributing proportionately more cases than these who, even though perhaps political refugees, had their families with them.)

Just as the reconstruction of the traditional family pattern or some close substitute appears to reduce the incidence of mental disorder in emigrant Chinese, so the assumption of forms of life which break the tradition appears to increase the incidence of mental disorder; but this is not merely a restating of the same fact. In the one case we have external conditions breaking the tradition and the individual having to work back to it, and the difference showed itself mainly in the organic type psychoses. In the second case we have the individual, with only slight pressure from the new environment, choosing a new form of life, and here the difference shows itself mainly in schizophrenia and depressive

states. The two obvious instances relate to industrial or technical occupations and to living in an area where a joint and partly conscious effort is being made to assimilate the different cultures (see Chapter 7). In modern technical and industrial employment the stress is on individual ability and expert knowledge which cannot be easily handed on from father to son as in the old trades since the means for practicing the occupation are rarely in the home. It is virtually impossible, therefore, for family members to help each other in such work, or for the family council to decide on matters relating to some technical field, and the burden of decision and effort becomes largely an individual one. Also, the knowledge, customs and practices of such employment have a very different nature from the knowledge and etiquette afforded by a traditional Chinese upbringing. The individual Chinese who enters such an occupation, therefore, faces problems for which his upbringing has not prepared him, and must face them alone unless his society concurrently invents a new method of group support to help him*. Hence one finds that in Singapore the artisans and drivers group of Chinese workers have the third highest rate for that race, whereas the Indians and Malays (who are no better suited to the work in terms of mechanical intelligence) have relatively low rates for these occupations (Chapter 8, p. 350a). Another occupation which clashes with traditional Chinese teaching is that of policeman, since it means putting state before family, risking one's life and interfering in other people's

* Both the strains of traditionally educated Chinese trying to adjust to an industrial milieu, and the development of new group support techniques, are very well illustrated in present-day Chinese Communist fiction. Singapore is only on the edge of industrialisation and does not afford such dramatic examples.

The Malays are a quite separate tribe, not only people with a different

affairs, (which Confucius said one should not do), and this likewise has a high incidence rate for Chinese, but not for the other groups.

In discussing female rates in Singapore I referred to the way different dialectal subgroups among the Chinese had carried over different traditions from their home areas. The Cantonese and Hakka women have a tradition of employment outside their own homes whereas the Hokien and Teochui women traditionally do not. These different dialectal groups, whose speech may be mutually unintelligible and who in consequence show very little intermarriage or other mixing, carry different occupational traditions and these traditions in turn affect their mental disorder rates. In addition, as we will see in Chapter 6, their relative size is a factor. However, neither of these variables has any special Chinese quality about it and the differences in the dialectal rates and patterns of breakdown do not, with one exception, increase our knowledge of the influence of Chinese culture on mental health. Even the one exception illustrates a general rule rather than a Chinese one, but it is interesting as confirming something previously noted by Lin in Formosa. The Hakka sub-group have a definitely higher rate of mental hospitalisation than any of the other dialectal sub-groups, this difference applying not only to the present time but to all previous periods for which rates could be calculated (Tables 15, 16) and the excess lying especially in the endogenous psychoses group. Lin found the same thing in Formosa. The difference does not fit in with any occupational preference, or with any observed peculiarity of immigration, residence, etc. It does, however, relate to a factor which may be racial or may be connected with tradition or present social attitude. The Hakkas are a quite separate tribe, not only people with a different

dialect; their features are slightly different, their traditions are more free, and their character appears to be rather different, though this may easily be the result of social pressures. They had a reputation for being more stubborn and more martial than the Chinese (though less so than the Manchus) and in the 19th century formed the nucleus of the imperial army (2). In the war against the Japanese the latter noted them as being particularly anti-Japanese and pro-Communist (39), and in Malaya they seem to be disproportionately frequent in the communist guerrilla groups today. In Chinese speech the name they go by means 'stranger' and they appear to have been partly rejected and unassimilated, like gipsies in Europe. Unfortunately I do not know of any physiological studies on them, so we can regard their higher rate of mental disorder rate as racial, perhaps connected with their greater aggressiveness; or we can regard it as a result of them being treated as strangers (this question will be taken up again in a later chapter); or we can regard it as the outcome of a different culture. The fact that their female rates, until the present time (Tables 15 and 16), have been as low as the other ethnic groups, however, favours the social factor.

Of the other dialectal groups it is noticeable that the Hokien have always had the lowest combined rate. This is probably connected with the fact that they have always been the largest group and have shown a particular aptitude for trading and hence for the main occupation in Singapore. At the same time it is interesting that the first cases to be recognised as schizophrenia - after that diagnostic category became understood and accepted here - were nearly all Hokien, as were the first cases of G.P.I. in Singapore Chinese. Was it because they had somewhat assimilated after so many generations in Malaya or Singapore that they are

lated European ways and hence more quickly demonstrated symptom complexes which European doctors could identify, or was there a true difference in susceptibility here, linked to predisposing social factors of a more European kind?

Among the women there is an interesting point not shown in these last tables, namely, the group who were recorded as 'Chinese, unspecified dialect'. The 'unspecified' categories, of course, are used mainly for cases from whom sufficient information is not available, but in this case the females greatly exceed the males and the majority of the former are young schizophrenics or toxic confusional cases (Table 17), which is quite against expecta-

Diagnostic Group	C	H	I	N	E	S	E
	M	F	M%	F%	M%	F%	F%
Schizophrenia	28	78	16.3	35.8	28.6	31.7	
Manic Depress.	19	40	15.5	18.4	19.9	18.4	
Toxic Confus.	16	51	13.0	23.4	12.8	15.5	
G. P. I.	30	6	24.4	2.8	15.2	2.6	
Arterio & Sen.	5	21	4.1	9.6	6.3	9.1	
Other Admiss.	33	22	26.8	10.1	17.2	21.1	

TABLE 17. First Admissions to Singapore Mental Hospital of Chinese classified as 'Dialect Unspecified'; by sex and certain diagnostic groups; with percentage distribution and comparative distribution for total Chinese first admissions.

me wonder, therefore, whether the excess of young female cases in this group comprises girls who have married someone of a different dialectal group and have broken down under the extra strain which this change of language and change of certain traditions involves. Alternatively they may be girls whose families have been so many generations in Malaya or Singapore that they are

Malayanised. Unfortunately I have no further information which would permit me to explore this point, but it is a matter on which investigation might be justified in the future.

As the Chinese are the major group in Singapore, most of what is written in the section on social factors is going to apply to them more than to anyone else, and we will come back to questions of Chinese tradition and culture in these chapters. The purpose of the present chapter, however, has been to explore the relationship between Chinese racial inheritance and culture and their patterns of mental disorder, and this has now been taken as far as the data seem to permit. To summarise, we may say first that the Chinese may have inherited a greater resistance to certain types of cerebro-vascular disease and minor neurological toxins such as sometimes produce mental disorders, but not to more serious neurological lesions such as secondary and tertiary syphilis. Of their culture we may say that it appears to be strongly and successfully protective towards the individual who has adjusted to its demands and who either retains or regains the larger family unit on which much of the culture depends. In contrast to Western cultures, this protection is particularly enjoyed by the aged. On youth, on the other hand, the cultural demands fall heavily, so that they appear to be more anxious and more neurotic than the corresponding age group in Western countries, and migration for this age group seems to relieve mental burdens rather than impose them. Because this culture is so much orientated on the family and puts little emphasis on wider society, moving into a non-Chinese milieu disturbs less, initially, than it would do with other peoples, but if some form of traditional family unit is not regained, or if the individ-

ual deliberately branches out into some field where relations with society break with tradition, then mental breakdowns are markedly increased (though we cannot say whether they are increased above those of other peoples doing the same thing). The culture is similarly protective to their females, except at time of marriage, the burdens of concubinage, polygamy, and male dominance being somewhat mitigated by the propriety which is imposed on the male as much in his relations with the other sex as in everything else. Regarding types of disorder, a special feature seems to be a form of acute psychotic attack arising from a situational or neurotic basis, the reason for this probably being the fact that the culture has devised no other escape from certain types of situation and hence uses such individual breakdowns as a means of protection against its own rigidity. On the whole, however, the Chinese appear to be less susceptible to mental disorder than many other peoples.

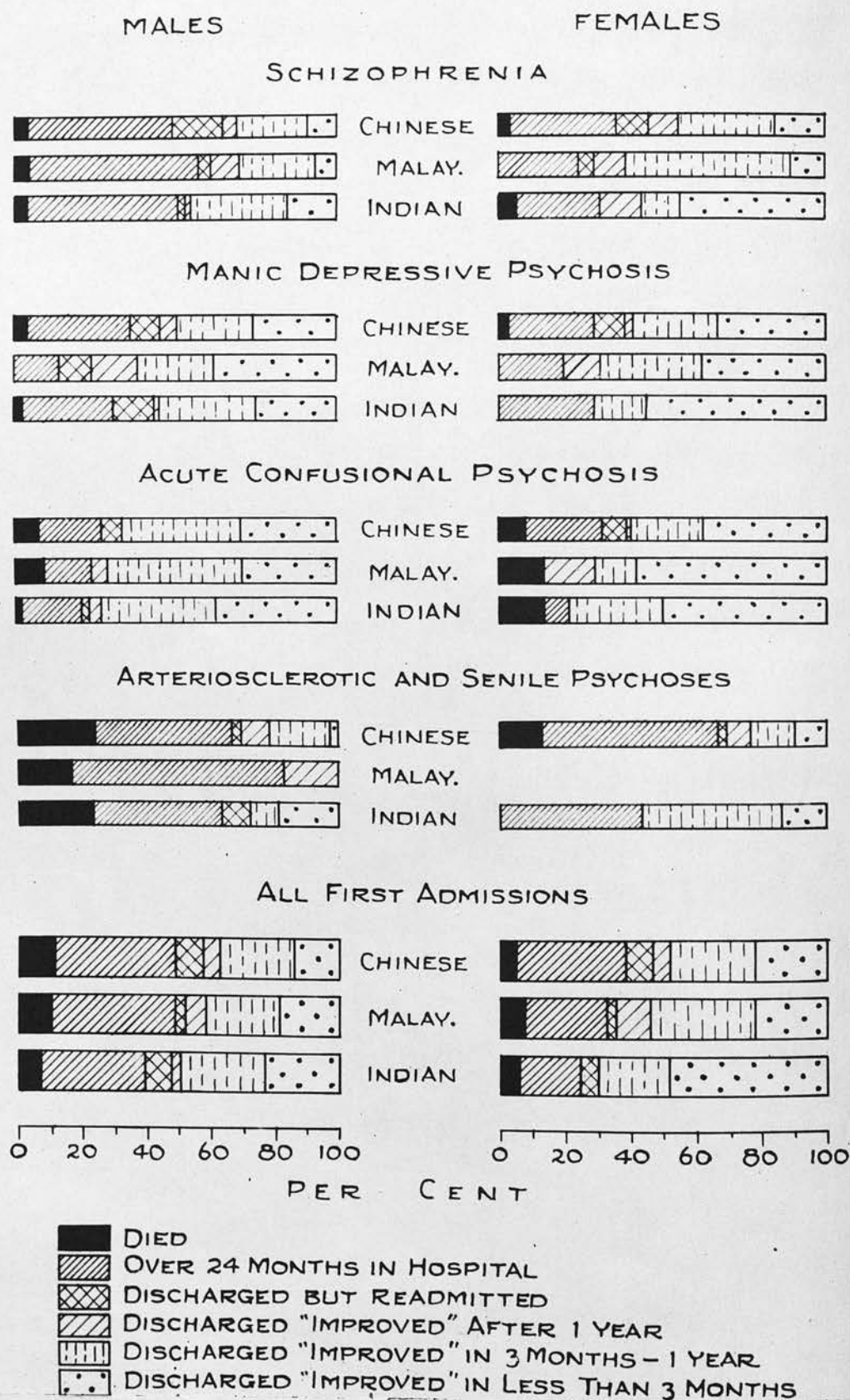


FIG. X. Proportionate distribution by Outcome of Singapore mental hospital first admissions, divided by Sex, Ethnic Group and by broad diagnostic category, 1953-53.

(Cases discharged as unimproved or against medical advice have been excluded.)

Chapter 3

THE INDIANS

The most striking thing about Indian mental hospitalisation in Singapore is its frequency, for as we have already seen (Fig. IV) Indian standardised rates are almost double those of the Singapore Chinese, or those of present-day Britain (both sexes included). The same diagram also suggests that the difference lies with the psychoses - or what are labelled so - and not with the minor mental disorders whose hospitalisation is a matter of choice rather than of necessity. Nevertheless, our first inclination is still to assume that the difference is likely to be mainly one of attitude to hospitalisation rather than of true incidence within the population.

I have approached this question from several directions. First, an enquiry through hospital almoners produced the answer that the Chinese were no more averse to mental hospitalisation than the Indians in Singapore,

Such differences may be racial, cultural, or situational. We have already seen that the pattern of Chinese mental disorder in Singapore being easier and the Westernised upper feeling more resistance - than by is different from that in China, a difference compounded from the social ethnic group. This was also my own impression. Next, an investigation of student family histories revealed, as Table 18 shows, that the incidence of mental disorder in the parents and siblings of the students in this situation. For the Indians the same is to be expected, though not

Ethnic Group	Families No.	Major Disorders				Minor Disorders			
		Parents	Sibs.	Total	Rate	Parents	Sibs.	Total	Rate
Chinese	621	7	3	10	16.1	6	6	12	19.3
Indian	333	7	3	10	30.0	7	1	8	24.0
Malaysian	136	0	2	2	14.7	5	1	6	44.1

TABLE 18. Cases of Major Mental Disorder in the parents and siblings of university students at University of Malaya; by Ethnic group, with rates per 1,000 families.*

* Average size of family does not vary sufficiently to affect the result.

but add a little to our information (see Table 26); field surveys are even of serious mental disorder reported from this sample population showed the more doubtful, but worth quoting since they are our only approach to the same sort of ratios as the hospital data, although seriousness was judged psychiatric picture in rural areas. There have been two such surveys, on the student's description of the condition and not on hospital admission. Both very superficial. The 1931 Census of India collected information on certain chronic diseases, using unskilled investigators but covering the whole of India. Its outcome is interesting in that the resultant cases and that the former are quite as acutely disturbed as the latter. On figure of 35 cases of insanity per 100,000 population is almost identical with that arrived at by similar methods in the census of Kuning District, nistic distribution of cases in the two groups (Fig. VII) with the Indians China. The second survey is of interest for the same reason. Megaw having much more manic-depressive and confusional psychosis, and there is in the early '30s, collected information on certain chronic diseases by some difference in the outcome with the Indians having the higher percentage of early discharges. (Fig. X) Hence we have little justification for thinking that the difference in rates is due to attitudes to hospitalisation and considerable justification for believing that we are dealing with true differences in psychosis incidence.

Such differences may be racial, cultural, or situational. We have already seen that the pattern of Chinese mental disorder in Singapore is different from that in China, a difference compounded from the social situation in Singapore and the cultural 'set' with which the immigrants met and higher in the East, with the highest rates in Assam (150), Bengal (120) and Madras (120) provinces. The differences are not along racial necessarily in the same direction since neither situation nor 'set' are identical.

As with China, data on common patterns of mental disorder in India rates whereas the Bengali and Madras were, at one time at least, notorious difficult to obtain. Our best source is the Indian Army, a source which cannot be called normal but which we can still use by taking into consideration its special social factors. Civil hospital data are much less useful,

* See previous chapter.

but add a little to our information (see Table 26); field surveys are even more doubtful, but worth quoting since they are our only approach to the psychiatric picture in rural areas. There have been two such surveys, both very superficial. The 1931 Census of India collected information on certain chronic diseases, using unskilled investigators but covering the whole of India. Its outcome is interesting in that the resultant figure of 35 cases of insanity per 100,000 population is almost identical with that arrived at by similar methods in the census of Kunming District, China. The second survey is of interest for the same reason. Megaw, in the early '30s, collected information on certain chronic diseases by correspondence with rural doctors and arrived at an overall figure of 80 insanes per 100,000, which is almost identical with that given by Dr. Kasamatu for his small district near Canton*. Hence both these very rough measures would suggest that the prevalence of easily recognised or admitted insanity in India is very close to that in China, not markedly different as in Singapore. To this however, there must be a qualification. Megaw's rates (based on satisfactorily large sample populations in each district) vary considerably from region to region, being lower in the West and higher in the East, with the highest rates in Assam (150), Bengal (120) and Madras (120) provinces. The differences are not along racial cleavages, though one might connect them with militancy since it is the Punjabi, Maharati and Gujerati - the warrior groups - who have the lowest rates whereas the Bengali and Madrasi were, at one time at least, notoriously unmilitant. But what is relevant here is that the great majority of Singapore's Indian population comes from the coastal areas around Madras,

* See previous chapter.

a few coming from Bengal but almost none except the tiny Sikh minority from the centre and West. Hence in as far as any weight can be put on such rough indices at all, they would suggest that the prevalence of popularly recognised insanity in Southern Indians may, in their homeland, be higher than that of the Southern Chinese in their home villages. Such an impression is too tenuous to follow further, but it may still be profitable to ask why the Southerners appear to have a higher incidence than most other Indian regional groups since this has also been reported ^(6,50,59) from the Indian Army. Let us therefore turn to the Army data.

The peacetime incidence of mental disorder of all types in Indian troupes was 106 per 100,000 per annum, compared to 280 for British troupes serving under the same command ⁽⁶⁾. In contrasting these two figures, however, several facts have to be taken into consideration. The first is that an Indian soldier could be discharged by his commanding officer without reference to any board, medical or otherwise, if found unsatisfactory within his first six months of training. This must have eliminated a number of disturbed cases before they ever got into Army medical hands or appeared in medical statistics. Secondly, mental disorder in these days was treated by the Army very similarly to crime and the ordinary soldier was therefore most unlikely to report himself for psychiatric help. Thirdly, the British troupes were far from home, had been recruited during a time when the Army was in low repute in Britain, and had much to gain by being 'boarded' and repatriated. The types of disorder found in these years are not recorded, but one does know from occasional references that the diagnosis of neurosis among the British troupes was not uncommon, whereas it was probably quite rare among the Indians.

analysis With the outbreak of the second World War the incidence of only reporting mental disorder in both groups rose quite markedly (see Table 19), and continued to rise until 1945, the British rate usually being

Year	Combat Conditions	Incidence per 1,000 per annum		
		Total Sickness (39)	Mental Cases (6)	
		All Troups	Indian	British
1934-9	Peacetime		1.06	2.80
1941	Defensive positions		2.20	4.50
1942		1850	2.90	5.20
1943	Withdrawal	1400	4.30	4.70
1944	(Attack on)	1000	5.70	12.50
1945	(Burma)	500	6.60	12.90

TABLE 19. Incidence of mental disorder in Indian and British troops of the Indian Army, under peacetime and combat conditions, with rates of total sickness and casualties for S.F.A.C. troops in same area. (Note: rates refer to cases of sickness, not to individuals, one individual possibly appearing more than once in the year's statistics. Also, a change in classification in 1944 resulted in conditions such as effort syndrome being classified as mental disorders for the first time, so that the increase in the last years is partly artificial). (Sources 6, 39)

(* The category 'Physical Disease' refers to patients with known somatic illness who were about double the Indian. For the last year, however, we do have an

accounted for by the definite mental symptoms). better medical screening which the British troops would receive, not only on enlistment but also before being sent over-seas. Some may also be accounted for by hysteric pseudo-psychoses, more common among the Indians than among the British. But the general finding is undoubtedly, as in Singapore, that the Indians had a much higher rate of psychosis than Europeans under comparable circumstances, but a much lower rate of reporting neuroses.

analysis of types of disorder (Table 20) and this shows that whereas only about 5% of the

British cases were	Author	Kirpal Singh (50)	Williams (59)	
labelled psychotic,	Type of Soldier	O.R.s Indian	All Ranks Ind.	Brit.
at least 50% of the	N.	100	344	238
Indians were. On	FUNCTIONAL PSYCHOSES	P E R C E N T A G E S		
this basis we find	Schizophrenia	39.0	25.3	4.7
that, at least	Manic		11.4	0.8
	Depression		5.2	1.7
			8.7	2.2
under combat condi-	ORGANIC REACTION			
tions, the incidence	TYPE PSYCHOSES	33.0	20.0	0.4
of psychosis among	Confusional	12.0	13.9	0.4
the Indian troupes	Physical* Disease	21.0	6.1	-
was approximately	MINOR DISORDERS	28.0	54.7	94.9
five times as high	Psychosomatic	-	4.1	22.0
	Psychoneuroses	-	-	8.9
	Hysteria	17.0	31.3	7.2
	Anxiety States	3.0	4.3	51.7
	Others	8.0	15.0	5.1

TABLE 20. Mental Disorders in Indian and British Troups on the Arakan Front; by diagnosis, race, and author.

(* The category 'Physical Disease' refers to patients with known somatic illness who were referred for psychiatric opinion because of definite mental symptoms).

better medical screening which the British troupes would receive, not only on enlistment but also before being sent over-seas. Some may also be accounted for by hysteric pseudo-psychoses, more common among the Indians than among the British. But the general finding is undoubtedly, as in Singapore, that the Indians had a much higher rate of psychosis than Europeans under comparable circumstances, but a much lower rate of reporting neuroses.

Rough comparison of these army rates with Chinese ones is also possible, since we have the data on the Chinese labour corps in France which were quoted in the previous chapter. These Chinese were operating far from home, under army conditions but not doing any actual fighting, and they had a rate of mental disorder of 165 per 100,000. The defensive positions of the Indian troupes in Burma in 1941-2 (when there was similarly little fighting) offer a rough comparison, and there the rate was 255.

In both comparisons, then, we find the Indians having the higher rates of serious disorder, and with regard to type of disorder we find a similar position to that in Singapore, namely that the Indian cases have especially an excess of confusional, organic type, reactions. They also, as Table 21 shows, had a relative excess of schizophrenic reactions, but

	R A C E	Indian Army '44-5 on Arakan Front		Singapore males age 15-34	
		Indian	British	Indian	British
rather the low	Schizo-Reaction	5.84	1.06	5.68	3.53
British rate than	Manic & Cyclical	2.62	2.12	6.70	0.59
the high Indian,	Depressive React.	4.39	2.65	3.53	0.59
and some of the	Confusional State	4.84	0.50	4.26	-

TABLE 21. Estimated Incidence of Certain Psychoses in Indian and British Troups in Active Conditions compared with equivalent age groups in Singapore; rates per 10,000 per annum (Calculated by combining data from Tables 19 and 20.

The main characteristic of Indian patients both in Singapore and in the Army is undoubtedly the frequency of confusional states, and so for probing more deeply into their psychopathology we may usefully start from this point.

explicit, but we can assume from what we have been discussing that they

Table 20 shows that Army psychiatrists on the Arakan front distinguished two main types of organic type psychotic reaction in Indian troupes. The first was the simple confusional state, sometimes but not always with minor accompanying physical disorder but with the mental symptoms clearly predominating. The second was the appearance of psychotic manifestations in soldiers suffering from some definite physical illness (but not, interestingly enough, from wounds⁽⁵⁹⁾). Both these conditions were specific to the Indian troupes only, not to the terrain or primarily to the incidence of physical disease, for the British troupes experienced the same environmental strains (though perhaps a more balanced diet) and the incidence of mental disorder was still rising at a time when that of physical disease was dropping markedly (Table 19). Hyatt Williams records that he was never called on to give a psychiatric opinion on a British soldier suffering from frank somatic disease or injury, and we see from Table 21 that the incidence of confusional psychosis was relatively low.

This association between physical disorder and psychosis is not confined to army conditions, however, or only to the group labelled organic reaction types. Overbeck-Wright, admittedly at a time when 'toxaemia' was a more potent term, wrote his text-book Lunacy in India partly "to emphasise the importance of toxaemias as aetiological factors in the production of a very large proportion of (mental) cases". That was in 1917; in 1945 the Medical Superintendent of Madras Mental Hospital was equally emphatic in telling me that somatic disease was a most important factor in many of the cases he was seeing. In what way important? These authorities were not so explicit, but we can assume from what we have been discussing that they

However, I see no reason why such slips should occur more frequently with

were thinking of it as a precipitating factor. However, an analysis of the Singapore material shows it to be of importance in quite a different respect as well. If one studies the prognosis of the functional psychosis cases in the light of whether they have had a concurrent somatic disease at time of admission or not, then an interesting and significant difference appears. As Table 22 shows, those Indian cases in whom

Duration of Stay		Under 6 months		6 - 24 months		Over 24 months		Chi ²	P.
Somatic Disease		Present	Absent	Present	Absent	Present	Absent		
INDIAN	Schizophrenia	8%	45%	22%	6%	68%	49%	6.54	.05
	Depression	52%	63%	17%	33%	30%	5%	8.42	.01
	Mania	47%	62%	32%	21%	21%	17%	2.17	.30
MALAY	Schizophrenia	27%	30%	46%	36%	27%	33%	0.32	.85
	Depression	50%	59%	20%	29%	25%	12%	0.84	.70
	Mania	72%	55%	14%	28%	14%	17%	0.62	.70

TABLE 22. Influence of Concurrent Somatic Disease on Prognosis of Functional Psychosis in Ethnic Groups, Indian and Malay; Singapore 1950-53. Percentages are to nearest whole number. Cases dying have been excluded. Chi² calculated on original figures.

somatic disease was reported at time of admission had a significantly worse prognosis than the patients in whom no such somatic disease was recorded. This is not the case with the Malays against whom it was convenient to contrast them, and it is in the opposite direction to what one would have expected on the hypothesis that some of the so-called functional cases with somatic disease were acute exhaustive or confusional states misdiagnosed. It is possible, of course, that there was a diagnostic slip in the opposite direction, with some lighter schizophrenic cases being labelled confusional states simply because a somatic disease was also found, and such an artifact could account for these results. However, I see no reason why such slips should occur more frequently with

Indian cases than with Malaysian, and as Fig. X shows, the prognosis of Indian acute confusional psychoses is not worse than the Malaysian - as should be the case if they had an unusual proportion of missed schizophrenia among them - but better. Moreover, the greater chronicity was not associated with any particular group of somatic diseases, e.g. Indian tuberculosis, hitting the Indian patients more heavily than the others. I think, therefore, that the finding stands. Relations between somatic disease and the functional psychoses are not, of course, unknown in other parts of the world. Wiedhorn⁽⁵⁸⁾ reported a connection between toxæmia of pregnancy and schizophrenia; Hemphill⁽²⁵⁾ found that schizophrenia only associated with the puerperium had a particularly poor prognosis whereas toxic puerperal psychosis in his sample had a good prognosis; and not⁽³⁸⁾ Meyer found schizophrenic episodes in mental patients to be associated with somatic disease more frequently than he considered likely from chance. In Africa, also, there has been a study⁽¹⁹⁾ indicating that female schizophrenics who improved within three months of admission had fewer signs of physical disease and malnutrition than those who did not so improve*. However, none of these findings suggest anything like the degree of association found in the Indians, especially since the latter are mostly males while reports elsewhere most often suggest a connection

although again the ratio of upper to lower class admissions (i.e. in

* The point is not brought out by the author but can be calculated from the full details she provides. Both the poorer prognosis and the somatic disease might be secondary to a longer duration of mental disorder, with probable self-neglect, prior to admission. But what is more interesting is that cases which could be labelled catatonic or hebephrenic in that study were significantly less associated with signs of somatic disease and malnutrition than were the cases called 'unclassified type' of schizophrenia. The use of psychosomatic

with some female hormonal disturbance.

Contrasted with this apparent tendency for physical disease to induce or intensify psychotic disorder in Indians is the relative rarity of psychosomatic disorders found among them under the same conditions. At least, they seem to have been rare among the ordinary Indian soldier, although perhaps not among their officers. As we see in Table 20, Kirpal Singh reported no psychosomatic disorder at all among his sample; but this could have been because his internist colleagues did not consult him. Hyatt Williams, however, obviously was consulted for such cases, since 22% of his British patients were of this type. Yet, only 4% of the Indian patients fell into the category, which is about a tenth of the British rate, and those patients who did fit the label were not representative. They were mostly well educated and of the military clerk class, and nine out of fourteen developed their complaint subsequent to a loss of 'face', whereas as we will see below, the ordinary uneducated sepooy reacted to loss of 'face' with quite a different psychopathology. Education appears to play a part here, therefore, and this is supported by Singapore findings, both from my own practice and from the hospital. There, where there is much less illiteracy among the Indians, one does find a considerable amount of psychosomatic disorder, although again the ratio of upper to lower class admissions (i.e. in terms of hospital accomodation) is higher for these conditions than for other diseases.

It is difficult to see these contrasts between Indian and other peoples as stemming from a single factor. The use of psychosomatic opposite characteristics, since not only do they react with confusion to

mechanisms as an ego defence is not obviously linked with mental susceptibility to somatic disease; or rather, in as far as one would expect a link it should be of the opposite kind with a general blurring of the separation between psyche and soma and hence with both conditions being raised or lowered in the same individuals. Again, mental susceptibility to acute somatic disease would seem to promise a better rather than a worse prognosis, since such diseases are usually curable quite rapidly, and with their relief one might expect a relief of the mental state as well, as happens in toxic delirium. But we get the reverse. Instead, therefore, of asking what single factor or group of factors can be traced behind these phenomena it seems better to ask our questions separately. These questions are: is there any evidence for a racial difference in the cerebral defences against somatic disease; is there evidence of a cultural difference in ego strength or ego mechanisms connected with the use of psychosomatic disorder as a defence against psychosis; and is there any reason to attribute to somatic illness a greater somatic or psychic trauma in the case of the Indians than in the case of other peoples? (state position.) This difference could, of course, have been accounted for by the fact that the Chinese appeared to possess a relatively heightened resistance to such acute irritants as malaria, but to be fully or excessively susceptible to chronic neurological disorders and to cerebral syphilis. This observation was consonant with the theory that the more acutely the body is affected by and reacts to an attack, the less likely is that attack to become chronic or to produce chronic sequelae. The Indians seem to show the opposite characteristics, since not only do they react with confusion to

transient somatic illness, but they show a definitely reduced incidence of general paresis and tabes.

This latter point can be

inferred from a number of

sources in India and

Singapore but is best

illustrated by the data

opposite. There we see

that whereas the Indian

and Chinese admissions

to mental hospital showed

the same percentages of

non-cerebrospinal syphilis

Percentage of Admissions Showing
Positive Kahn Test in Serum

With G.P.I. Without G.P.I. Total C.S.F. Positive

MALES

Chinese

13.4% 7.3% 20.6% 12.9%

Indian

3.7% 7.5% 11.2% 4.5%

Malaysian

9.2% 12.5% 21.7% 8.3%

FEMALES

Chinese

4.5% 7.5% 7.5% 4.7%

Indian

(1.7%) 8.3% 10.0% (1.7%)

Malaysian

5.8% 9.6% 15.4% 3.7%

TABLE 23. Cerebrospinal and Non-cerebrospinal Syphilis as a percentage of total Admissions for three Ethnic Groups to Singapore Mental Hospital, 1950-53; by sex.
(Abstracted from Hospital laboratory records)

(i.e. cases having the Kahn test positive but neither signs of G.P.I. nor

the C.S.F. abnormal) when we come to cerebrospinal syphilis the Indians

show only a third of the Chinese figure. This is true of both sexes and

the difference is statistically significant. (The Malaysians show an

intermediate position.) This difference could, of course, have been

accounted for by the Indian cases being infected later than the Chinese

(on average) and since there does occur a difference in the mean duration

since immigration in the two groups the possibility must be allowed.

However, in the Singapore venereal diseases clinics in 1950 the incidence

of Indian patients with tertiary lesions of all systems was higher, per

thousand population, than that of the Chinese, the figures being 1.24 to

1.02, suggesting that the two groups had about an equal proportion of

chronic infection among them. The obvious conclusion, therefore, is that

the Indians and Chinese differ in the susceptibility or reaction of their central nervous systems to systemic infections or toxins of different kinds.

On the other hand this presumably physiological difference need not be the sole factor linking somatic disease to psychosis in the Indian. As we now consider the traditional attitudes to illness in that culture we will see that this, and other purely psychological factors, may play a part.

The Indian soldier's first defensive reaction on feeling sick is usually withdrawal (50), going to bed or to some quiet place and resting for a day, usually without food but with plenty of sleep (59). During this period he is relatively inaccessible, almost schizoid, and this mode of behaviour is culturally approved, thus provided a quite striking illustration of Freud's claim that in all sickness there is some narcissistic withdrawal (21). After that, if he has not improved, the patient will usually seek help not by returning from his regressed level but by groaning until people - his family in normal circumstances - gather round and make a fuss like a mother does for a sick child (23). Indian popular belief (17) divides illness into two groups: those like the common cold, scabies and gonorrhoea which are considered everyday affairs to be treated by folk medicines; and the intermittent fevers, chronic stomach disorders, menstrual disturbances and most other complicated illness, all of which are regarded as potentially dangerous, probably of supernatural origin, and usually requiring special protective action. Hence if people do not rally round and arrange for the appropriate protection the withdrawal is likely to be complicated by reactive depression arising from the belief that death will ensue since the correct measures have not been taken.

delusions or hallucinations, to induce to violence, to oniric ecstasy, or to depression and anxiety, but it is probable that all these sequelae part, since the remedy requires someone with special knowledge, or at least techniques which he cannot perform for himself. This whole cultural attitude towards sickness, therefore, tends to encourage passivity and withdrawal, and relatives may be pressed to submit to all the demands of the ill person by the fear lest he should haunt them later if he dies believing they did not look after him properly (23).

Under such conditions it is plausible that there should be a greater degree of narcissistic withdrawal, a withdrawal which may approach that present in some psychoses. But to explain either this tendency to withdrawal or the association of mental symptoms with physical sickness in terms of superstition alone is too simple. I have seen similar types of withdrawal in English-educated students in whom the desire to be mothered or to obtain attention while remaining passive was the obvious factor, studied Cannabis was used mainly by Brahmins and Saddhus, while the military caste used alcohol and opium. The Brahmins might use the Cannabis to get drunk, have erotic delusions, etc., but mainly they used it as an aid to withdrawal, a method of emptying the mind of all worldly distractions so as to be free to concentrate either on their God or on suppression of disturbing drives through opium, or their release through the process of self-liberation. As such it merely assists in the tendency to withdrawal that is at the heart of Hindu and Buddhist mysticism, wherein the adept is seen as having all his bodily needs attended to by others while he sits oblivious of his surroundings, attempting to attain escape drug used is Cannabis whose effect is quite different.

The effects of Cannabis have been widely studied in a variety of cultures with a variety of reported symptoms. However, it seems clear that its main function is to produce a dissociation from reality and from the processes of logical thought. It has been alleged to produce erotic

delusions or hallucinations, to induce to violence, to oneiric ecstasy, or to depression and anxiety, but it is probable that all these sequelae

arise out of the 'set' of the person's mind prior to taking the drug, The question of Cannabis psychosis, which has exercised many minds, may be touched on here, but need not delay us much. As with opium, not as a specific function of the drug itself. Hence it is taken by the majority of serious investigators have come to the conclusion that people who wish to escape from reality, not to escape from themselves, Cannabis does not produce psychosis, or at least does so very rarely, and and who seek solace in the products of their own imagination. At one time it was very widely used in India; Walsh (56) noted at the end of last century that nearly fifty percent of admissions to Dacca mental hospital were using it, sometimes mixing it with datura to produce greater stupor. plant was used, but Warneck writing (9) Egypt in 1922 and Walsh from Yet Carstairs in a most fascinating paper has shown that its use is Bengal in 1894 both regard the condition as rare or doubtful, Walsh sectional, being rejected by the Rajput warrior caste because they are pointing out that the caste among whom the drug was in widest use had brought up to seek enjoyment in action and to dominate their environment, apparently the fewest psychotic admissions to mental hospital. with the result that escape from that environment is less important than

Withdrawal, then, is a culturally accepted response not only in escape from their own fears and own superego. In the district which he the face of this world's problems but as a road towards solving those of studied Cannabis was used mainly by Brahmins and Saddhus, while the future worlds, and Cannabis may be used to reinforce that withdrawal. military caste used alcohol and opium. The Brahmins might use the Whether such religious practice ever leads to psychosis I do not know; Cannabis to get drunk, have erotic delusions, etc., but mainly they used possibly it does, but because this form of psychosis has so high a social it as an aid to withdrawal, a method of emptying the mind of all worldly (24) reputation it may take on a different form, as happens in other cultures distractions so as to be free to concentrate either on their God or on But we have seen that the withdrawal which accompanies physical sickness the process of self-liberation. As such it merely assists in the tenden- may later have psychosis added to it, and when withdrawal is the response cy to withdrawal that is at the heart of Hindu and Buddhist mysticism,

wherein the adept is seen as having all his bodily needs attended to by other types of 'self' visualised by modern psychology is fascinating but others while he sits oblivious of his surroundings, attempting to attain is not identical with the 'self' referred to in the introduction there is considerable overlap, since it is the belief in self-determination and in separate identity which I hypothesized to be key functions of the latter Self that the mystic seeks to be rid of.

annihilation of self*.

The question of Cannabis psychosis, which has exercised many minds, may be touched on here, but need not delay us much. As with opium, the majority of serious investigators have come to the conclusion that Cannabis does not produce psychosis, or at least does so very rarely, and that most cases labelled so had definite psychotic tendencies before they became addicts. Bouquet suggests ⁽⁸⁾ that although Cannabis psychosis is rare today it may have been common formerly when a different variety of plant was used, but Warnock ⁽⁵⁷⁾ writing from Egypt in 1922 and Walsh from Bengal in 1894 ⁽⁵⁶⁾ both regard the condition as rare or doubtful, Walsh pointing out that the caste among whom the drug was in widest use had apparently the fewest psychotic admissions to mental hospital.

Withdrawal, then, is a culturally accepted response not only in the face of this world's problems but as a road towards solving those of future worlds, and Cannabis may be used to reinforce that withdrawal. Whether such religious practice ever leads to psychosis I do not know; possibly it does, but because this form of psychosis has so high a social reputation it may take on a different form, as happens in other cultures ⁽²⁴⁾. But we have seen that the withdrawal which accompanies physical sickness may later have psychosis added to it, and when withdrawal is the response

* The question of what relation the 'self' referred to here/as to the other types of 'self' visualised by modern psychology is fascinating but difficult and not clearly relevant here. I would only say that while it is not identical with the 'self' referred to in the introduction there is considerable overlap, since it is the belief in self-determination and in separate identity which I hypothesized to be key functions of the latter Self that the mystic seeks to be rid of.

case of loss of 'face' than in the case of physical illness. Hence the specific precipitating factor with the Indian seems of less importance than the underlying personality structure. It is not the degree of

to loss of 'face', as it was in the lower class but not the educated Indian soldier as mentioned before, then psychosis can also ensue.

Hyatt Williams writes:

"After such a happening (loss of face) the sepoy cut off his contact with other people. He became dejected, taciturn, and sometimes tearful. His slow actions, thought processes and speech resembled the retardation of the depressive states, but if something happened to restore his face he recovered almost immediately. The most frequent complaint was a feeling of futility. Sometimes the sepoy complained that his food had not the same taste, and that the whole world seemed strange and different. There was indeed, some degree of depersonalisation" (But) "Only the worst cases of this type become psychiatric casualties. Most of the Indian soldiers recovered after going through a state of mourning"(59).

This reaction to loss of 'face' is different from that of the Chinese, although there are many points of resemblance when the cases proceed through hysteria to a schizophrenic reaction. The Chinese reaction, as far as we have a description of it, can be interpreted as an acute response to the realisation that society offers or accepts no alternative development of psychosis in such patients is rarely expected. Hence solution except revenge, running away, suicide, or something equally drastic and negating, and the psychotic state provides a means of denying they should all really be called hysterics. Hysterics, however, are identity with the offended or offending period of the patient's life. self-limiting except in special cases such as anorexia nervosa; For the Indian the same cannot be said since his culture offers a variety of outlets to almost any situation. Rather it is the loss of belief in himself which seems to matter, and the withdrawal may be seen not as an attempt to cut himself off from the offence but as an attempt to conserve what ego organisation remains by withdrawing round it. We may say that whereas in China culture sometimes demands an individual mental breakdown, in India the culture merely permits it, and permits it much less in the case of loss of 'face' than in the case of physical illness. Hence the specific precipitating factor with the Indian seems of less importance than the underlying personality structure. It is not the degree of

Indian confusional cases have certain special characteristics: severity of a somatic illness which determines in Indians whether there will be mental symptoms; neither is it the frequency. If physical disease were the main and not only a contributory factor in the appearance of confusional psychoses and deliria among Indian troupes, then better environmental hygiene should have effected a fall in the number of cases whereas, as Table 2 shows, psychiatric casualties increased as general sickness got less.

But although there seems ample reason for thinking that regressive behaviour is common in Indian culture one may question whether the mental disturbance to which it gives rise should be called a psychosis or alternatively whether the ensuing psychosis has any direct connection. Such reactions are not uncommon in other peoples*, but are usually labelled neurotic or hysterical, and the development of psychosis in such patients is rarely expected. Hence one might suggest that the cases were being mis-labelled and that they should all really be called hysterias. Hysterias, however, are self-limiting except in special cases such as anorrhexia nervosa; they do not go on to dangerous, even fatal, confusional states, or end up as chronic functional psychoses, as the Indian cases may. Enquiry in Madras (28), Mysore (45) and Singapore reveals that these

* For instance, the 'Magical Fright' which Gillin describes as occurring among Central American natives is manifested by "symptoms of depression, withdrawal from normal social activity and responsibility, and signs of a temporary collapse of the ego organisation". But the cases he describes would usually be labelled hysterias, and signs of a psychosis are apparently to be found not in the patients but in their native therapists! (24).
 Secondly, the reactions were far too severe to be classified as hysterical pseudo-insanity.

Indian confusional cases have certain special characteristics:

- a) they are usually associated with physical debility;
- b) they are liable to die quickly of some physical disorder;
- c) electro-shock therapy often effects a turn for the better in the physical disease, if this has seemed dangerous;
- d) many cases get better on good feeding and general medical care alone;
- e) it is not possible in the early days to distinguish clearly between cases which will recover easily and those which will turn into schizophrenia.

These are not the characteristics of chronic hysterias as described in Europe. Davis, discussing Indian Army cases evacuated to his base psychiatric hospital (15), shows clearly the confused symptomatology of the early stages of patients who later developed true psychoses. Of the functional psychoses which he saw 35% were stated to have commenced as the result of some specific frustration, physical illness, or a combination of the two, and to have shown hysterical manifestations at first. But

"The presence of this initial hysterical mechanism does not prove that the cases are basically hysterical, for the following reasons:

First, I found this frustration syndrome in patients who later presented as a typical picture of classical dementia praecox of doubtful prognosis.

Secondly, the reactions were far too severe to be classified or treated as psychoneurotic, and they included realistic attempts at suicide. Several patients giving a history of frustration would have battered themselves to death in catatonic excitement or starved to death in catatonic stupor had they not been treated.

Thirdly, these cases are for the most part psychotic because their symptoms correspond far too closely to the classical symptoms of true insanity to be cases of hysterical pseudo-insanity.

For instance, the patient who gave the history of the lorry accident had all the classical signs of catatonic schizophrenia on admission, including waxy flexibility*, repetitive cries and catatonic posturing. He was also desperately ill from starvation.....

Also, there were certain cases admitted, but not classified as psychotic at all, whose condition was obviously purely hysterical, characterised by simulation of insanity".(15)

It is clear, therefore, that we possess here something different from the hysterical neuroses of Europe. The question is why.

Normally one regards schizophrenia and the manic-depressive psychoses as unconnected from any easily identifiable precipitating factors and as being different in kind from the neuroses even though the two can coexist in one patient. Yet if one accepts Freud's statement that narcissistic withdrawal is a characteristic of physical illness (21) as

well as of psychosis, then surely what is surprising is that the former so rarely becomes the latter. It would seem as though there is some special change which is necessary before the psychosis can supervene either on illness or on some regressed state following mental

trauma. The change could be biological (hormonal, following the theories of Hoffer, Osmond and Smythies (26)) or psychological. The development of psychosis on top of a withdrawal state might depend on

*Waxy flexibility and catatonia are not, however, a sure indication of psychosis in all cultures. Jewell has described(27) a Navaho patient with such signs who turned out, when eventually contacted by a sympathetic interpreter, to be suffering mainly from the belief that he was sick and liable to become more so since he had missed an important ceremony connected with his birth anniversary. He recovered with reassurance only. That case has certain similarities to those we are discussing here and also to some reported among Australian aborigines, all being affected seriously by a belief in some sickness which needs special traditional treatment; but among East Indians I think this belief is only a minor factor in most cases.

the production of some hypothetical 'adrenotoxine', or it might depend on the weakness or absence of some ego-function. to control its demands
and is not. The first hypothesis is something we cannot follow up in the present work; the second we can at least explore. It will be remembered that the presence of these forms of psychosis in Indian troops was accompanied by the relative absence of two forms of neurosis - true psychoneurosis and psychosomatic neurosis - which are commonly agreed to depend on the presence of a developed ego and a developed superego. It is just possible that the two observations are linked and that the absence or weakness of certain ego or superego functions produces both a freedom from certain types of intrapsychic conflict and also a lack of limit to the degree of permitted withdrawal. At least, let us consider the development of the ego in Indian childhood and see if it adds to our picture. Child-rearing in the ordinary Indian village is very loose. Lois Murphy was told "You bring up your children, we live with ours, but the equality and lack of direction intended in the statement implies also a belief that special training for adulthood is not necessary, and this would seem to be the popular attitude. There are virtually no prescribed phases of weaning, of toilet training*, and no short-term goals of first steps, first words, or first involvement in some social roles. The prescribed religious ceremonies marking a boy's growth - the Samskaras - are not linked with any change of role or status except traditionally and

(41)"

* In the higher castes boys theoretically do not belong to their families, they are regarded as soiling their husbands and fathers by their

(17)

* Dube (17) suggests that the change happens at the age of 5 or 6, but I think that the Indian child is treated as a baby till the age of 5, and not expected to be self-controlled till then, the above theory would need modifying.

in the highest castes*. As long as an infant is thought of as something less than a person it is not expected to be able to control its demands and is continually being fed or petted. Indian babies are therefore rarely observed to cry (41) and mothers are found to be worn out by breast feeding up to twelve times a day with weaning as late as two or three years (51). As long as he is regarded as a baby, therefore, the Indian child experiences very little frustration and is given no training in handling it. Once he becomes recognised as a person, however, he may find himself treated as a miniature adult to be held responsible for all his own actions. This may happen about the time he is sensing his own identity, about the time the next child is born, and about the time he first comes to recognise his father as a power in the house**. Altogether it is a sudden burdening of a hitherto unfrustrated life, and the combined stresses can be expected to mark as almost unique the attractiveness of the previous state of passive dependency. To be a small adult in a world where aggression is fairly freely directed at one's inferiors - this being a definite feature of Indian culture - may be a frightening experience, and the fact that the child will for a time be treated at one moment as a boy and the next as a

* In the higher castes boys theoretically do not belong to their fathers' caste until after the 'Sacred Thread Ceremony' at the age of between 6 and 10, till which time they are therefore, in some strict families, not allowed to eat with their fathers. But this change in status is not accompanied by any significant change in role today, as it was formerly. Girls never attain the same caste as their men-folk, so that, in strict families, they are regarded as soiling their husbands and fathers by their contact (53).

** Dube has shown that Indian school children of the 8-10 age group from a (17) Dube (17) suggests that the change happens at the age of 5 or 6, but I think it is earlier in other areas. If it were generally true that the Indian child is treated as a baby till the age of 5, and not expected to be self-controlled till then, the above theory would need modifying.

baby is no aid, since the occasions are likely to be quite arbitrary. Many children growing up in such a culture must possess a predisposition to fixation at the pregenital development stages.

Lack of formal training in Indian childhood is not easily compensated for by diurnal experience either. Satisfactory ego development depends on the consistency of behaviour of the environment so that such behaviour can be predicted and responded to. But consistency is a quality on which Indian culture puts little every-day value. It is a common observation that Indian mothers tend to promise easily (44,53) what they do not intend to fulfil and to threaten easily what they will soon forget; and it is an equally common observation that Indian children do not put much value on such threats or promises, but persist in seeking immediate gratifications, hoping that if their mother does not lose her temper she will give way to them in the end. Dube writes:

"The elders practice considerable deception in their dealings with children. Efforts at disciplining them tend to be erratic, and extremes of affection and strictures are by no means uncommon".

Further,

"Jealousy between siblings may be induced by members of the family who take delight in watching the irritation, anger and aggressiveness of little children. Tantrums at this stage are frequent". (17)

As a result of such upbringing Indian children are undoubtedly more fearful than those of many other cultures, and yet such fear is not induced in such a way as to develop strong super-ego or ego organisation. Dumas has shown that Indian school children of the 8-10 age group from a wide variety of backgrounds are unusually full of fears (18), and if we compare the scoring of Madras adolescents (48) with Chinese on certain

Personality Inventory responses* we find that the Indians exceed the Chinese most on the following items:

	<u>Percentage</u>	
	<u>Disturbed Responses</u>	
	<u>Indian</u>	<u>Chinese</u>
Fear of being crushed in a crowd	48%	19%
Being frightened by many things	60%	23%
Having daydreams about unplesant things	49%	18%
Feeling of being usually unlucky	70%	37%
Feeling physically inferior	47%	31%
Losing their head in danger	52%	36%
Finding things often going wrong	65%	36%
Walks in sleep	33%	13%

It would seem true, therefore, that child-rearing in the traditional Indian culture offers little training in consistent ego development, presents an environment which is irritating or frightening, and predisposes to fixation at a pregenital stage. These are conditions which would encourage the regressive behaviour in illness which has been described, and might possibly permit withdrawal to proceed to a stage at which the ego becomes blocked and psychosis supervenes. However, confusional states in illness or after loss of 'face' are not the most obvious results to expect, and if any link is proposed between child-rearing patterns and the excess of certain types of psychosis in Indians it would be wise to demonstrate that the more expected forms of mental disorder are also present.

The most obvious type of disorder to predict from the described upbringing would be juvenile delinquency. If the superego has been given

* From (14) and (48). The two tests and tested groups were not not strictly matched in composition, but sufficiently similar to justify the comparison. All duplicated sentences were taken and those have been quoted in which the Indians scored more than 15% higher than the Chinese. The items on which the Chinese scored 15% or more higher than the Indians were: feeling lonely in company; troubled by inferiority feelings; easily moved to tears; frequently daydreaming; having difficulty in making friends; being depressed; disliking many people.

little development, if the child has been teased into tantrums but not, as with Bali children (32), trained to withstand such teasing, and if there is an accepted dominance of the strong over the weak, then the child or adolescent must surely be expected to possess strong hostile feelings and to retaliate when it is safe to do so. On the other hand a similar upbringing combined with more consistency and greater restrictions such as occurs in some Brahmin groups, would be expected to produce not delinquency but an inward turning of such aggressive feelings, with consequent mental disorder or suicide. All these things can be demonstrated in their expected settings.

Let us first take juvenile delinquency. Table 24 shows that it is almost five

times as frequent among Indian children as among others in Singapore*, and that an unusually high proportion

	Indian	Chinese	Malaysian
Population 10-14*	2,380	49,790	6,230
Delinquents, 10-14	101	459	60
Rate per 1,000 p.a.	5.3	1.1	1.2
Offences ag. Persons	1%	10%	7%
" " Property	83%	61%	73%
" " Discipline	16%	29%	20%

TABLE 24. Juvenile Delinquency in Singapore, by Ethnic group and type of offence, males only. (*Estimated)

of the cases were of theft. This last predominance may suggest a lack of satisfactory object relationships, but may also be viewed as that form of aggression which avoids immediate retaliation from people stronger than

* A contributory factor here may be that the Indians have no area of their own in Singapore, but are scattered throughout other peoples. Beaglehold has pointed out that Hawaiian juvenile delinquency in Honolulu is higher from districts where the population is mixed than from districts where the Hawaiians have their own communities⁽⁵⁾. But one would not expect this factor to account for so large a difference.

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oneself. However, this excessive delinquency refers only to males, and an examination of the data reveals that it is almost wholly lower class.

Indian girls do not have the freedom to act thus against society, and the middle class child will have a more consistent upbringing, usually with English schooling. For them an almost equal disturbance can be shown, but in the different directions which our theory would predict. The incidence of suicide in the 15-24 Indian female group is approximately double that of the corresponding male group, and much higher than of corresponding groups from other cultures (42). For the Indian middle-class male group, as

on the other hand, it is mental hospitalisation which is so high. We have already seen in Fig. VII that the Indian male 15-24 group have much the highest admission rate of any we are studying here. Table 25, below, indicates almost certainly that this excess is not evenly distributed but concentrates in the upper-middle class groups. Hence it seems legitimate to claim that mental dis-

turbance in one form or another is strikingly prevalent among Indian youth, the form being re-

AGE GROUP	S o c i a l C l a s s			
	I	II	III	IV
15-29	18.0	14.9	5.8	9.6
30-49	3.6	7.5	7.5	15.5
50+	8.0	7.7	8.2	17.6

TABLE 25. Estimated Indian Male Mental Hospitalisation Rates, by Social Class and Age Group, Singapore 1950-54. (For details see Chapter 8)

That applies to Singapore, but similar evidence, though less complete, can be obtained from India. One cannot obtain comparable delinquency rates, since these depend on local laws and police activity, but in Madras one finds the same emphasis

* Unpublished data, courtesy of the Government of Madras State.

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on theft, not only among delinquents but also in the projected fantasies of non-delinquent adolescents (49) where it contrasts strongly with the emphasis on more direct forms of violence in the fantasies of American children. Also, from Calcutta (40) and Poona (36) comes evidence that juvenile delinquency generally is causing considerable concern. Regarding suicide, one finds over most of South India (I do not possess figures from the North) that female rates markedly exceed male in the younger age groups, while from one district, Tanjore, comes a quite remarkable picture. There police records show 43 suicides under the age of 10 and 300 under the age of 20 as compared with only 334 for the whole age group 40-80, all over a five year period and all successful*. (In Seattle, to show the influence of changed environment, the tiny Indian community of only 666 persons produced no less than 15 attempts over the years 1948-52 with the females again the higher, but here none were successful (60).) What local influence there is to produce this remarkable picture I cannot discover; Tanjore is a strong centre of Brahminism and there has been strife between Brahmin landlords and the lower castes, but although I suspect that to be a factor I cannot prove it and Indian correspondents in Madras disagree. A Brahmin's daughter, Lakshmibai Tilak, has described in her autobiography her own attempt at suicide at the age of ten as a reaction to her father's ritual strictness (54), but one cannot build on a single case and of course that attempt was unsuccessful. A similarly striking picture, this time for mental disorder, comes from Calcutta where a private mental hospital, presumably catering

somatic and other neuroses, but one could equally argue that the undoubted
* Unpublished data, courtesy of the Government of Madras State.

* Total of 541 non-paranoid schizophrenia and 165 manic-depressive admissions.

for the middle and upper classes, has published a report on age distribution of its cases. In this report one finds ⁽⁴⁶⁾ that 12% of the non-paranoid schizophrenias admitted were below the age of 15 and 34.6% were below the age of 20, the corresponding figures for manic-depressive admissions being 10.6% and 24.1%. Even allowing for the lower mean age of the population and for the modern outlook of the hospital these figures would appear to be unique and to give us strong support for the hypothesis that adolescence in the Indian culture is unusually disturbed.

So far, then, we have been able to find remarkable differences between the psychosis pattern of Indian and that of other groups in Singapore, and some of the differences appear to be linked fairly clearly to what we know about child-rearing in that culture. The hypothesis that the Indian ego has unusual temptations to regress to a pre-oedipal stage when faced with stresses such as physical disease seems plausible and this in turn can be suggested as a factor in the association of somatic disease with the onset of a functional psychosis. However, the association with increased chronicity does not seem to receive so easy an explanation, and I have little more at this point to offer on that subject. Further analysis shows that the difference in chronicity in the functional psychoses is significant in the lower social class group and not in the middle and upper (dividing the sample into only two groups to obtain sufficient numbers in each) but this does not get us so much further. We can hypothesise that it is education which is the factor here, as it presumably is with the psychosomatic and other neuroses, but one could equally argue that the undoubted

* Dr. G. M. Carstairs, London; Dr. Murti Rao, Bangalore; Dr. Richard Galston, Boston.

* Total of 541 non-paranoid schizophrenia and 165 manic-depressive admissions.

(59)

any material. There were 30 depressive to 15 manic cases, the manic tendency to malnutrition in the lower economic classes would act as a stress coming largely from northern groups. One must suspect that not all these tending to chronic disturbance of certain hormonal mechanisms. If one does data refer to the same conditions and the question arises whether it favours a cultural hypothesis then the best that I can offer is to suggest that the individual who reacts with marked regression to the frustration of physical disease or loss of face is likely to react the same way to the frustrations of living in a mental hospital where no personal encouragement and hospitalisation policy, but I do not think we are justified in ignoring or psychotherapy is possible. Now let us consider the functional psychoses it so easily. Table 26 gives estimated rates of mental hospitalisation for their own sake, since in the Indian material they still present certain special problems.

Madras C. The manic-depressive group pose two main problems - the nature of depression in Indians, and the great variations reported in the incidence of the manic-depressive group generally.

TABLE 26. The nature of depression among them requires discussion because and diagnostic group; compared with rates for Singapore Indians and for population of England and Wales 1951-52. On the one hand three experienced psychiatrists* have told me that true depression was very rare from Madras city, a place where the number of occupied mental hospital beds in the areas where they were working, which were not only in the south. per million population is very much higher than for India as a whole. My One of them travelling two hundred miles to see the only case he was able estimates cannot be regarded as fully reliable and one has to allow for the to find, and from his description of this case it is clear that it was hospital's long waiting list, so that all functional psychoses and the very much a reactive type, not endogenous (11). That evidence is supported acute transient organic reactions are likely to be under-represented. Never- statistically in the 1954 report from Madras asylum where there were only three depressive admissions to 204 manic (4). On the other hand most other hospital reports - including earlier ones from Madras - give melancholia as comprising between five and twenty percent of cases. Again, in Williams'

* Of the 1,900 beds in Madras mental hospital two-thirds of the male and for Dr. G. M. Carstairs, London; Dr. Murti Rao, Bangalore; Dr. Richard Galdston, Boston. In the estimates it was necessary to assume that there was no marked difference in the age or diagnostic distribution of the urban and rural admissions, this assumption being moderately supported by internal evidence.

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army material there were 30 depressive to 15 manic cases, the manics coming largely from northern groups. One must suspect that not all these data refer to the same conditions and the question arises whether if we could get the matter sorted out certain special features might emerge.

The second problem, the great variation in reported incidence, is easier to pass over on the grounds of variation in diagnostic fashion and hospitalisation policy, but I do not think we are justified in ignoring it so easily. Table 26 gives estimated rates of mental hospitalisation

	Schizophrenia		Manic-Depress.		O t h e r		T O T A L	
	M	F	M	F	M	F	M	F
Madras City	23.9	18.2	18.8	5.4	12.7	12.2	55.4	35.8
Singapore Indian	22.9	24.5	47.5	39.1	78.6	80.4	149.0	144.0
Britain (C.B.s)	28.5	22.2	27.1	46.3	21.1	36.6	76.7	105.1

TABLE 26. Estimated Rates of Mental Hospitalisation for Madras City by sex and diagnostic group; compared with rates for Singapore Indians and for England and Wales, County Boroughs; all standardised for age on the population of England and Wales 1951 (4,55).

from Madras city, a place where the number of occupied mental hospital beds per million population is very much higher than for India as a whole*. My estimates cannot be regarded as fully reliable and one has to allow for the clear which type of case he is writing about at a particular point. (For hospital's long waiting list, so that minor functional psychoses and the acute transient organic reactions are likely to be under-represented. Nevertheless, the difference between the schizophrenic and the manic-depressive in whether that it depends on whether a loss of necessary supplies is merely threatened or has actually taken place; definitions which, while both plausible, are scarcely synonymous.) The weakest point in the theory,

* Of the 1,900 beds in Madras mental hospital two-thirds of the male and four-fifths of the female are occupied by city patients, although the city community comprises only about a twentieth of the theoretical catchment population. In the estimates it was necessary to assume that there was no marked difference in the age or diagnostic distribution of the urban and rural admissions, this assumption being moderately supported by internal evidence.

three populations cited, the manic-depressive psychoses are thrice as frequent in Singapore as in Madras, both sexes combined, while in Madras itself the male rate is thrice as frequent as the female. Both these observations contradict our normal findings, since it is customary to regard those psychoses as being more frequent in females than in males, and to be virtually unaffected by social variables such as migration. Finally, Table 21 showed us that the incidence of mania in the Army was much lower than in Singapore, but the incidence of depression higher, giving yet another twist to the problem.

Let us now turn away from these problems and see what theoretical expectations we can derive from relating the Freudian theory of depression and mania to what we can learn about Indian culture. The theory is by no means complete or consistent. Freud himself admitted that there were many types of melancholia and that he was choosing to write about only one group⁽²²⁾. Abraham and Klein do the same, though less explicitly. Fenichel⁽²⁰⁾ makes a most courageous attempt to face the variety of cases which must be accounted for, but often fails to make clear which type of case he is writing about at a particular point. (For instance, he writes in one place that the difference between neurotic and psychotic depression depends on the degree of narcissistic regression, and in another that it depends on whether a loss of necessary supplies is merely threatened or has actually taken place; definitions which, while both plausible, are scarcely synonymous.) The weakest point in the theory, however, lies in the assumption that mania is always a reaction to a prior manifest or concealed depression, a point which does not easily accord with the report that in certain cultures depression is virtually unknown while work of family and caste relationships.

mania is common. However, this may depend on the recognition of depression, which is evidently a problem, and need not bar us from considering that theory. It falls into two parts; the description of certain prerequisites to the development of melancholia, and the description of the process.

The prerequisites are:

a) Fixation at a pregenital level producing a narcissistic type of basic personality dependent on the environment (the love object) for emotional supplies necessary to the maintenance of self-esteem.

b) Weak ego development such that loss of self-esteem cannot be tolerated without threat to the ego organisation.

c) The threatened or actual loss of those supplies, often through the death or loss of the object from which they previously came.

d) An ambivalent attitude (both loving and hating) towards the object from whom the emotional supplies must come.

e) A potentially punitive superego.

If we compare these prerequisites with what we have previously deduced about Indian culture we must conclude, I think, that a liability to depression is to be expected. We deduced that there should be a greater tendency to fixation at a pregenital level and to weak ego development than in many other cultures. In addition, the treatment accorded to children after weaning seems likely to induce a marked ambivalence towards their parents, and the high mortality rate in that country must make the death of chosen love objects a frequent occurrence. At the same time, however, we must suspect that this is not the whole story, for a culture which has dominated a subcontinent for so long and has been able to absorb so many invaders without basic change must have its strong points, whereas we have hitherto considered only the weak ones. Three such strong points are the tolerance of deviations, the tolerance of inconsistency, and network of family and caste relationships.

From the point of view of the development of depression the network of family relationships is the most important. The extended family permits the child to seek supplies of affection from a greater variety of sources than is usual in molecular Western societies, and in adult life that variety of sources continues. Readings in modern Indian literature indicate that there is a continual inter-penetration of psychological fields, with far more of the individual involved than is customary in the West. This inter-penetration is partly the result of the greater personal tolerance, whereby the individual need not hide his hostile feelings or personal weakness, but can express or reveal them in the knowledge that any dislike they arouse will be transient and that the people on whom he depends for affection will not be able to refuse him this for long. Similarly, the fact that ambivalent feelings are not only permitted in children but may be encouraged (we saw that in the area Dube studied children were encouraged to go into temper tantrums and it is reported from other areas that boys are encouraged by male relatives to attack their mothers with the idea that it will make them 'manly' (53)) means that such feelings need not be repressed. The child thus generates much less chronic anxiety or guilt about hostile feelings towards a loved one, or feelings of attraction towards someone he tells himself he hates, and the complex internal strains engendered by the repression of one aspect of the ambivalence must be much less. The risk of depression is thus largely taken care of by social devices whereby emotional dependency is spread among many individuals, supplies are richly given, and ambivalent feelings are permitted without punishment. Such life is dangerously fluid, but is contained within

regulates the development of depression according to that theory but

the chitinous framework of the caste system, a marked contrast to the Chinese system where rigidity and support is all interior.

Our deduction, therefore, ^{could} be that depression - we will consider mania shortly - is very liable to occur in Indians who lose their sources of external emotional supply, but on the other hand that such loss must be relatively rare, owing to the supplies depending on a variety of individuals - family, caste, village - who are unlikely to be lost all at one time and to whom one is strongly bound by the social institutions of the extended family and the caste system. The one main circumstance which would defeat this social protection is the migration of individuals in search of work, a migration either overseas or to industrial areas which are innovations still affecting only a small minority of India's millions. Hence we should in theory expect to find most depression among Singapore Indians, both male and female, since they have left their whole multiple source of emotional supplies at one time, rather less depression in the Army, where the older supportive social institutions are rapidly replaced by new ones, much among the single male immigrant element of Madras's population and least among the native male and female element of that city. Apart from the fact that we cannot distinguish immigrant males from native males in our Madras data, this expectation accords very well with what we have actually found, with the important exception that whereas we have expected depression we actually find mainly mania. This brings us back to the problems of the relation of mania to melancholia, and of the nature of depression among Indians. In discussing the Freudian theory above I summarised what I understood to be the pre-requisites to the development of depression according to that theory but

said nothing about the process whereby that development takes place. European melancholics generally show much guilt and self-accusation, and it is to account for this feature that the main elaborations of the Freudian theory have been developed, i.e., the whole complicated story of introjection of the lost object being regarded both as an identification and as an oral aggression and hence giving rise both to ambivalence towards self and to guilt because of the aggression against the loved one. In Indian depressives, however, self-accusation, religious beliefs about sin and soiling, and guilt generally, are rare. They do occur in the upper castes, in the English-educated, and in the Army which has its own sub-culture with emphasis on its own type of super-ego. (Davis has reported typical delusions of unworthiness in ex- P.O.W.s who had been exposed to strong pressure to change sides ⁽¹⁵⁾, and Williams noted that depression ⁽⁵⁹⁾ was commonest in those troops who were most attached to the Army creed). But the common picture appears to be that of simple mourning combined with withdrawal and a tendency to something like stupor. Dr. Murti Rao gave me as his opinion that many cases labelled depression would more correctly be labelled catatonic stupor ⁽⁴⁵⁾, while others take the form of what he calls ⁽¹⁶⁾ malignant hypochondriasis. Dhunjibhoy noted that agitated cases of depression were far less common than in English hospitals, but that stuporose phases were often seen, sometimes lasting as long as two or three years but showing good results with careful nursing. These stuporose phases, I suggest, are probably closely related to the withdrawal states we considered in relation to organic reactions, arising out of an effort to conserve the disturbed ego organisation by withdrawal into passivity. I therefore suggest that depression in Indians is commonly not a complicated

(1)
self-punitive struggle between ego, super-ego and introject, but a simple reactive state sometimes combined with regression to a pregenital level. Such pathology as appears in them would then be due to the depth of withdrawal and most cases would, as William describes for those who have lost 'face', recover without medical attention after going through a stage of mourning. ~~he introject. Clearly it could be either. However, introjection~~

~~is probable~~ The main objection to this theory, with its rejection of the ~~role~~ role of self-punishment and the superego, is still the problem of mania. Freudian theory saw mania as a reaction to depression in which there is ~~red~~ a freeing and sudden external expenditure of that energy which had previously been locked up in the ego-superego-introject struggle. Why ~~the~~ there should be this freeing was not clear, but some such theory seemed necessary to account for the energy which the maniac shows, and at such times the super-ego seems either to have disappeared or at least to have gone over to the side of the ego. Hence if we say there was no internal struggle we apparently dispose of the means of accounting for the sudden access of energy which is the maniac's most striking characteristic. ~~tion~~

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~~vitality~~ The alternative which I prefer is to consider mania not as a ~~ergy~~ secondary reaction to loss, but as a primary one, with the access of ~~cessary~~ energy coming from an emergency uniting of libido drives in an attempt to introject at random all appropriate and inappropriate sources of supply. It is well recognised that mania has a strongly oral character and that part of the maniac's activity comes from a greediness to experience or ~~might~~ acquire all that he thinks of or meets. Abraham says "Whereas in his ~~that~~ depressive phase he had felt that he was dispossessed and cast out from ~~the~~ the world of external objects, in his manic phase he as it were proclaims

his power of assimilating all his objects into himself⁽¹⁾". And of course these introjects are thrown out as fast as they are taken in since they contribute, if at all, only a minor amount of nourishment. I did not discuss earlier whether the common Indian depressive case deviates from the Western at the stage of introjection or at the stage of reaction towards the introject. Clearly it could be either. However, introjection is probably easier where there is a single object than where supplies come from a number of sources all of which have diminished or been lost at one time. If this is so, then whereas classical depression has been considered as a disorder subsequent to introjection, mania might be considered a disturbance of the introjective process itself, an attempt to introject the whole of society since the previous source of supply was insufficiently defined to permit a narrower limitation. As such, mania can be regarded as an emergency reaction preventing starvation and more serious ego disorganisation. "On peut concevoir l'accès maniaque comme une technique régressive de guérison, comme une tentative vouée à l'échec de la part du malade de nier son insécurité profond et la menace de perdre sa relation vitale avec l'objet⁽³⁰⁾". With this theory the dependency of manic energy on the cessation of the ego-superego-introject struggle becomes unnecessary, although not ruled out in individual cases. In cyclical cases I would suggest that the alternation depends on whether the mechanism operating during the depressive phase is capable of obtaining sufficient supplies. If the latter drop below a certain level the emergency manic response might be switched on, to be switched off again when the intake rises above that level. (In Indians the cyclical form is known, but not common, so that the

last point is pure hypothesis. Although I have no note of the phases through which patients passed during a single admission, an analysis of readmissions shows that only one case was recorded as depressive on first admission and manic on second).

In this discussion of the manic-depressive states it has been convenient, though probably not accurate, to regard all Indians as one group. Turning now to schizophrenia regional differences become important.

Schizophrenia is less in excess among the Singapore Indians than any other diagnostic group except G.P.I., the male rate being virtually the same as for the Chinese, Europeans and Eurasians while the female rate is at about the mid-point for the five ethnic groups. On the other hand the rate in Madras must be presumed to be at least as high and probably higher, (Table 26) despite the fact that the Singaporeans are largely emigrants (in

D I A G N O S I S	R E G I O N A L G R O U P I N G					TOTAL
	South	North (Muslim)	North (Hindu)	Bengal	Others	
Number of cases	86	116	92	22	43	359
Schizophrenia	20.0%	9.5%	4.5%	4%	14%	11.0%
Manic-Depressive	13.5%	8.5%	11.0%	32%	14%	12.5%
Confusional Psych.	17.5%	18.0%	7.5%	9%	14%	14.0%
Hysteria	38.0%	41.0%	20.0%	27%	30%	33.0%
Anxiety State	7.0%	14.0%	51.0%	27%	23%	24.0%
Personality Disorder	4.0%	9.0%	6.5%	-	5%	6.0%

TABLE 27. Psychiatric Cases among Indian Soldiers on the Arakan Front;
by Diagnosis and main Regional Groupings (after Williams⁽⁵⁹⁾)

whom schizophrenia is customarily higher than in native residents) and can much more easily gain hospital admission. But it is from the Army data that

for which the reason was not immediately apparent - anti-salarial regula-
the most interesting information comes. Three separate authors have remarked
tions, for instance. Generally, therefore, they appear to show a greater
that Southern Indians had more than their share of psychiatric casualties in
capacity for collective action and something like democracy (which some other
the Army. This covers all categories of disorder, but Table 27 shows that
regions lack), but a lesser capacity to tolerate restraint or domination and
on the Arakan the Southerners had double the proportion of schizophrenia
to channel their aggression usefully.
shown by all other regional groups (the difference is significant at

2.9 S.E.), and hence presumably more than double the others' schizophrenia
It is this relative intolerance of restraint, I suggest, which is
linked to the differential distribution of schizophrenia among them, and in
rates. Referring back to Table 21 shows that this was also roughly double
support for this suggestion I would point to the differential rates for that
the Singapore Indian rate for the same age range whereas the rates for other
disorder in their different occupational groups in Singapore. Table 28 shows
types of disorder show no such disparity. One may therefore ask what it is
fact the schizophrenia
about Army life which apparently affects the Southerner so much more than
rate, but not the rates. Category schizophrenia depress. Admiss.
other Indians, and why does emigration not make their schizophrenia rate
for other disorders, back 200 Clerical 3.5 3.8 10.0
worse.

increases with the degree Labourer 2.3 7.5 17.8
The Southern Indian is mainly Dravidian, not Aryan as are the other
of supervision experienced Bowditch 2.0 4.0 10.0
regional groups, and family structure tends to be less patriarchal. Conjugal
in employment, the lowest Shop Assistant 1.3 2.1 7.0
units tend to be commoner, women tend to be less subservient, and family
rates being for hawkers Technician 1.0 2.7 8.8
cohesion tends to be perpetuated more by emotional ties than by formal
and merchants who are their Para. Service 0.9 2.2 5.0
structure. In Singapore they show a definite tendency to form cooperatives
and hawkers while the Hawker 0.8 8.8 11.4
and trade-unions and seem to be uncomfortable both when under direct super-
menters for clerks Commerce & Prof. 0.6 2.0 5.1
vision (such as the Malay is happy with) or when wholly independent (the
Chinese ambition). In the Indian Army they showed a marked difference from
more Northern groups in their attitudes to direction and leadership. Whereas
under their supervisors! Chapter 8).
some groups demanded good leadership, operating well under it and showing
strong loyalty to their officers, the Southerner was known to dislike the
paternal type of officer and was always seeking to be consulted. Hence
influence in increasing the spread, but not much since students are excluded.
although they had the reputation for being smart, intelligent and efficient
they were often in disciplinary trouble and they showed impatience with orders

for which the reason was not immediately apparent - anti-malarial regulations, for instance (59). Generally, therefore, they appear to show a greater capacity for collective action and something like democracy (which some other regions lack), but a lesser capacity to tolerate restraint or domination and to channel their aggression usefully.

It is this relative intolerance of restraint, I suggest, which is linked to the differential distribution of schizophrenia among them, and in support for this suggestion I would point to the differential rates for that disorder in their different occupational groups in Singapore. Table 28 shows that the schizophrenia

	Occupational Category	Schizophrenia	Manic-depress.	All Admiss.
rate, but not the rates				
for other disorders,	Clerical	3.5	3.8	10.0
increases with the degree	Labourer	2.3	7.5	17.8
of supervision experienced	Domestic	2.0	4.0	10.0
in employment, the lowest	Shop Assistant	1.3	2.1	7.0
rates being for hawkers	Technician	1.0	2.7	8.8
and merchants who are their	Pers. Service	0.9	2.2	5.0
own masters, while the	Hawker	0.8	8.8	11.4
highest are for clerks,	Commerce & Prof.	0.6	2.0	5.1

TABLE 28. Estimated Mental Hospitalisation Rates for Singapore Indians in certain Occupations; in order of Schizophrenia Incidence. (Not corrected for age. For particulars see Chapter 8).

eyes. This is not a function of social class, nor of the proportion of local-born or non-Southerners in the different groups. Age will have a slight influence in increasing the spread, but not much since students are excluded.

group, comprising the surprising total of one quarter of admissions in that age range. This is quite contrary to expectation, since European experience suggests that the incidence is spread throughout the child-bearing years and affects multiparae as much as primiparae. On the other hand it is not easily accounted for by suggesting a mistake in diagnosis. The age suggests schizophrenia, but the outcome is too favourable, especially if we remember Hemphill's report that schizophrenia associated with pregnancy has a poor prognosis. Nor are other forms of confusional psychosis reduced. We must, I think, relate the incidence at this age to the practice of Indian immigrants - and even the second generation - returning to India to marry and bringing their young wives straight back with them. In most parts of India it is the custom for the young wife to return to her mother's house for her first and often for several subsequent confinements, thus obtaining the consolation of being mothered during this period. In Singapore a trip back to India will often be impossible and confinements usually occur in the crowded, impersonal maternity hospital* where none of the consolations for this frightening time (Indians believe that the woman in late pregnancy is particularly vulnerable to the influence of evil spirits, and of course the maternal mortality rate in Indian villages is quite high) are to be had. Thus we find girls taken away from their families to which they are usually very attached, accompanying husbands whom they may never have met before to a distant country, and being attended at

* The maternity hospital had 26,188 admissions in 1954 for 240 beds (excluding baby cots), compared with 56,931 registered births.

Moreover, their cases are nearly all concentrated in the 15-24 age

If this hypothesis can be accepted it then becomes easy to explain the disparity in schizophrenia rates we noted earlier. The Army insistence on strict obedience, while quite acceptable to Northerners brought up in a patriarchal environment, would offer the greatest strain, while the situation in Singapore and Malaya, with virtually full employment and free land for squatters, is going to offer less strain than in the homeland where loss of job carries a more serious threat. One might ask why this type of strain produces schizophrenia rather than another disorder, but the answer seems straight-forward. One does not have here a lack of emotional supplies such as produces depression or mania; one does not have a clash of internal forces, such as produces psychoneurosis; it is a clash between internal drives and one facet of external reality, and one response to such a situation is the denial of reality which schizophrenia usually implies.

We have now considered almost all the problems which our material on Indian mental disorder has put before us. The question of age distribution, on which so much emphasis was placed when we considered the Chinese, has been shown to vary, for males at least, with social class (Table 25) and hence to have no constant pattern. The differences in sex rates have also been touched on, but here something more might be said. Indian female psychotic admission rates are by far the highest of the various ethnic groups studied here, the excess being found in all diagnostic categories (except the neuroses) and in all age groups, but being most marked in the puerperal psychoses and in the older age range. (Fig. VII) Puerperal psychosis constitutes 12% of their total admissions compared to 4% of Malay, 2.7% of Chinese, between 3 and 8% in Continental Europe⁽⁷⁾ and 1.7% in Britain. Moreover, their cases are nearly all concentrated in the 15-24 age

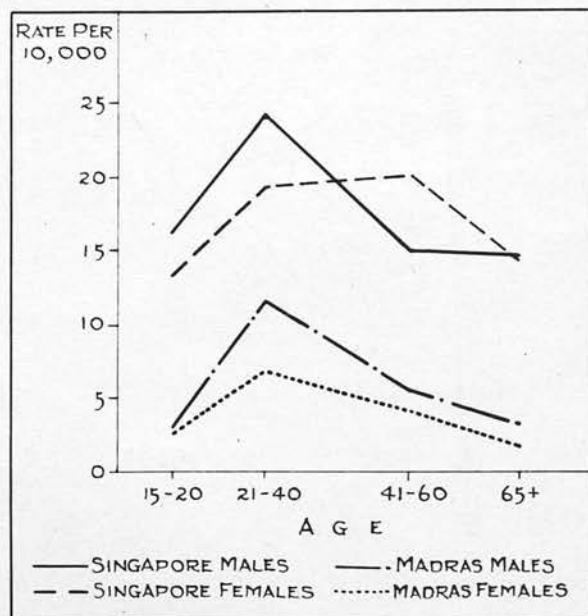


FIG. XI. Age Distributions of Indian admissions to mental hospitals in Singapore and in Madras; by sex. (4)

confinement in very strange surroundings by people often of another race with whom they may not be able to speak. I cannot prove that the majority of the Indian puerperal psychosis cases are with such a background, but it seems possible, and, if so, understandable. In India itself puerperal psychosis does not seem so common. Madras mental hospital reported three cases per annum (1% of admissions), and only one other case in which child-birth was considered a main contributory factor. This, of course, must be interpreted in the light of the hospital's long waiting list, but corroboration comes from another source. A report from a general gynaecological

(2)
practice in Bombay indicates that of eleven cases of psychosis seen

3	were during early pregnancy
2	during late pregnancy
3	during puerperium and post- <u>puerperium</u>
and 3	in association with gynaecological complaint

This does not indicate a special clumping in the puerperium.*

After the age of 24 the incidence of psychosis in the Singapore Indian women falls, relatively, but as Fig. XI shows, it rises again after the age of 40, whereas the Singapore male and Madras female rates both fall at that time. We are dealing with rather few cases here, but there is internal evidence to confirm this difference, for instance schizophrenia has a later average age at onset than in any other Singapore group, and arteriosclerotic psychosis is earlier, both shifts being uniform, not due to an odd case only. If one contrasts the Indian woman's life in Singapore with that in India one finds that it has its advantages and disadvantages.

* Since the writing of the above, Dr. Richard Galdston informs me that at the Bangalore mental hospital puerperal psychosis was just as high (12%) as in Singapore, which weakens the above argument. The city of Bangalore itself is a recently developed administrative centre to which personnel were brought from all parts of India, but whether the puerperal patients were migrants or local-born I do not know.

On the one hand, as we have noted, there is the separation from the rich emotional surroundings of one's native village and family, and the difficulty of having neighbours of a different race and speech. On the other hand there is much greater freedom, particularly from the domination of the mother-in-law and sisters-in-law (Chaudhuri (13) mentions that his mother was not allowed to speak to her husband's female relatives for the first five years of marriage, but had to serve them in all ways and to make known her needs by gesture alone). Also, since there are too few women and since divorce is easier here, the young married woman has a stronger weapon against her husband's bullying, and can easily enjoy the company of other men as long as she remains attractive. In middle age, however, this advantage is lost, there is the difficulty of bringing up children in a strange cultural milieu without the support of the joint family, and the isolation of the simple family may require that the woman goes out to work. At that age the only advantage Singapore offers is that the marriage of widows is easier, the social strictures against this in India being less operative. It is possible that these social factors are affecting the psychosis rate. The neuroses are not intended to be dealt with here, since the material from which I am working does not adequately reflect them. However, it was suggested earlier that there is a definite class difference in their distribution, and this point might be followed a little further. The culture and society which have been broadly referred to here as Indian have been those of the village rather than of the town, of the intermediate rather than of the higher castes, and of the South rather than the North. This was justifiable since rural dwellers of intermediate caste

comprise the great majority of India's population and since the Singapore immigrants are mainly Southerners; but the urban, Brahmin, Kshatriya and English-educated groups present important variants of the main culture, and the ways in which they vary have important influences on mental health. The main feature which all of them share is a greater consistency and rigidity of upbringing and of behaviour. Dube describes how interpersonal relations within the family had a recognised ideal form in the village he studied, founded on basic principles which are probably valid for all India, viz., family solidarity; respect for age; respect for position in scale of kinship; superiority of the male; and the confining of certain important matters to the responsible members of the family, never informing outsiders (17). But, whereas there was a definite effort to live up to the ideal on the part of the 'twice-born' castes and of those with urban education, the ordinary agriculturalist might express marked aggression towards his elders and his wife might hit back at him if he hit her without serious consequences provided an apology is given later, and the 'untouchable' castes hardly showed cognisance of the ideal at all (17) (29). Similarly, Beth Kennedy reports definite differences in the child-rearing attitudes of rural mothers and of urban mothers of (probably) equivalent caste. The urban group deviated from the rural culture in stressing cleanliness, honesty, diligence in study, and limitation of aggressive behaviour, none of which qualities were prized by the rural mothers at all in their children (quarrelling was disliked in the rural group, but obviously only for the noise and disturbance it made, not if it were out of hearing). Neither group expected much respect for elders (thus already showing a dilution of Dube's ideals) or even love

The frequency of the neuroses in these special groups whatever culture has

(10)
from their ideal children, though both expected obedience, but whereas the rural group thought a good mother should love and guide her children, the urban saw the good mother mainly in terms of feeding them, keeping them clean, and other material things. Hence urban and upper caste upbringing is more positive and consistent and easier for the child to predict, but on the other hand it would seem to be less rich emotionally and more restrictive.

In addition to this general urban and upper class tendency each of the main groups mentioned earlier has its own peculiarities which may be expected to strengthen in some direction and weaken in another. Thus, the Kshatriya, warrior castes, are much more rigidly patriarchal so that easy relations between fathers and sons are rare, and on the other hand the male child is taught 'manliness' which means that he is forbidden the pleasures of his mother's and sisters' company after a certain age. Such education produced the martial qualities of courage, obedience to leadership, and aggressiveness, but has not proved useful to a life in which fighting is forbidden. The Brahmin upbringing, on the other hand, stresses the avoidance of pollution, the correct following of ritual, the doing of good towards others, the supremacy of the mind not only over one's own body but over other people's, and the transitoriness of this life. For those who could follow the rules easily such a system of living could be very rich for both parents and children, and a good defence against disappointments, but for those who could not absorb the rules so automatically, and who saw the dangers of failure or of misuse, the system bore heavily.

There is ample, though very scattered, literature to illustrate the frequency of the neuroses in these special groups whenever culture has

(10)

not changed in turn with social conditions. Carstairs notes that in a Rajput Kshatriya group the Oedipal situation is given very great stress and a form of sexual neurosis called Jiryan was the third commonest presenting condition at a village clinic, being outnumbered only by malaria and enteritis. Confirmation is found in a personal history collected by Steed (52) (not for the purpose of illustrating this point at all), where one finds epileptiform fits resulting from an unsatisfactory marriage and 'cured' by the regular use of opium, whose use, along with alcohol, we earlier noted to be especially frequent in the more patriarchal groups. The neurosis here seems usually of the conversion type, and from the enormous consumption in India of sex literature and of alleged cures for impotence, not only in the former warrior castes but also in Bengal, it would seem that Indian child-rearing generally may tend to produce sexual neurosis. This point, however, needs direct investigation and is too little studied to be pursued here. Similarly, my belief that this may be true only of the upper classes in which acting out of feelings is restricted cannot be explored at present. I can only say that among English-educated students in Singapore sexual neuroses are not the common form, and sex literature and 'cures' do not seem to have the same popularity among the Singapore Indian population as in their homeland.

With the Brahmin I think it is true to say that the main neurosis is a compulsive one, an extension of the already remarkably compulsive ritual which every strict Brahmin must follow, and a fairly natural outcome of the belief in the supremacy of thought. Most compulsive neuroses arise from the need to neutralise the effect of some careless act or impulsive thought in patients who believe such thought or act to have magic powers.

How much commoner must such conditions be among a people brought up on tales of the way in which famous Brahmins influenced the gods and injured their enemies through the force of meditation and ritual alone. A classic case was that of Lakshmibai Tilak's father, who became ill on the death of his own father and carried the concept of pollution to the extreme degree. Everything entering the house had to be washed. Also "Having answered the call of nature in the morning, father needed four lumps of earth, each as big as a coconut, with which to rub his hands and feet clean. For twenty-five years, without a break, he brought this earth from the jungle two or three miles away Taking this earth he would sit hour after hour (54)" 'purifying' his hands and feet . The question of how much existing ritual protects from such individual breakdowns and how much they occur despite it is another question which requires special investigation.

The only definite evidence I have on the incidence of neuroses is that quoted from Carstairs, above, the Army data of Williams, and my observation of Malayan Indian Students. In Carstairs' papers it is not clear to what extent the disturbances existing in the upper castes which he was specifically studying were present in the lower castes also. Presumably his village clinic catered for all castes and if the condition Jiryan was so common it was presumably present at all levels, but the question of greater interest is whether in the lower castes the condition was severe and chronic - a true psychoneurosis stemming from childhood - or transient, arising out of current beliefs, not childhood experience. In the Army material we find much hysteria (see Table 3), but investigation under narcosis showed, as we might guess from the comparison with the British figures, that these states were risk, as long as he remains within the traditional village and extended

~~*Dr. Carstairs's study "The Twice-born" a study of Brahmins in Freudian terms, was not available at the time the above was written.~~

mainly converted anxiety states arising out of the immediate war situation. (We know that the occurrence of frank anxiety states in forces at war depends on the degree to which the expression of fear or anxiety is socially permitted. In the 1914-18 War, when expression of such fears might lead to accusations of cowardice and even to punishment, doctors found masses of hysteria but little frank anxiety. In the 1939-45 War frank anxiety states were much commoner, but still varied with the attitude of the immediate environment towards them, some units having more anxiety states, some more hysteria.) I feel, therefore, that it is justified to follow Williams in regarding the Indian hysteria as an equivalent of the British anxiety state. More important was the observation that true psychoneuroses formed 8.9% of British psychiatric casualties but none of the Indian, while psychosomatic disease comprised 22% of British cases but only effected Indians of the educated class. In Singapore psychosomatic disorder is relatively common among Indians of all classes, but one must remember that this is an urban group, and one which is surrounded by people among whom the open expression of emotion is restricted. Among my students the actual incidence of neurosis is higher in the Indian than in the Chinese, though lower than in the Malaysians; but whereas the Indian cases of neurosis whom I have seen are serious and of deep origin, the Malaysian cases tend to be simple traumatic or anxiety neuroses, arising from a current situation and easily cured.

It is the theme of this Chapter that Indian child-rearing tends to predispose to individual mental breakdowns, but that other aspects of the traditional culture offer the individual considerable protection against this risk, as long as he remains within the traditional village and extended

Chapter 4

family society for which the culture was developed. We have considered no evidence from traditional villages where the mutual support and dependency of the different castes still operates and where each person still fills the role tradition laid down for him. (Carstairs' Rajput studies are not valid since the Rajputs were traditionally as much warriors as agriculturalists, and had lost their former role by the time he studied them.) It is possible that if we did possess such evidence it would not show a high incidence of mental breakdown, whether of the neuroses which I have suggested tend to be found in the upper castes, or the psychoses which we found to be common in the lower class soldier. What the evidence does show, however, is that when he is deprived of that traditional support the Indian does have a high incidence of psychosis, especially of certain types of psychosis which we may call exogenous. All this is in marked contrast not only to the patterns of psychosis found in Europeans, but also to those found in the Chinese. It is possible that part of this contrast may be racial, and we have considered the evidence on this point, but it is my theme here that the main differences can be related to the combination of cultural tradition and social milieu. reveal, as one would expect theoretically if the difference arose mainly from opportunity or attitude (and as was actually shown in Canada (6) regarding rural/urban differences), that the separation of rates applies mainly to the less serious cases. Taking only those remaining in hospital for over one year, or discharged as unimproved, one finds that the difference between Malay and Chinese rates is actually slightly greater than with the less serious cases, not alighter. The fact that the Malays had, over the same period, a very low suicide rate (34) is also suggestive, and as a final point one may note, as will be discussed below, that Malay rates have not always been below the Chinese but are to be found above the latter

under conditions less likely to Chapter 4 to the question of attitude than to certain other social factors.

THE MALAYSIANS

For these reasons, and for others which will appear during our discussion, I think it is justifiable to regard the Malay rates at this time as Malay rates of mental hospitalisation in Singapore during the years 1950-1954 were as far below the average level as the Indian ones were above, the difference affecting both sexes and almost all ages but being most obvious in old age. Now, it is known that the Malays use all forms of modern medical care in Singapore less than do the other Asian groups, and whether we regard this as being due to their more rural location, or to a preference for traditional spirit healers (bomohs, still to be found in Malaya itself), or to the relative absence of Malay doctors in the modern hospitals and clinics, we must recognise that questions of attitude and opportunity may be affecting our figures here. However, there are a number of indications that a low rate of major mental disorder among them may still be genuine. In the first place, a prevalence survey by the Dutch psychiatrist Van Loon (56) in Sumatra (to be discussed below) showed that the Malays had remarkably few cases of disorder although other neighboring Malaysian peoples had quite high rates. Next, a comparison between those with better and those with poorer prognosis does not reveal, as one would expect theoretically if the difference arose mainly from opportunity or attitude (and as was actually shown in Canada (6) regarding rural/urban differences), that the separation of rates applies mainly to the less serious cases. Taking only those remaining in hospital for over one year, or discharged as unimproved, one finds that the difference between Malay and Chinese rates is actually slightly greater than with the less serious cases, not slighter. The fact that the Malays had, over the same (34) period, a very low suicide rate is also suggestive, and as a final point one may note, as will be discussed below, that Malay rates have not have not always been below the Chinese but are to be found above the latter

under conditions less likely to be related to the question of attitude than to certain other social factors.

For these reasons, and for others which will appear during our discussion, I think it is justifiable to regard the Malay rates at this time as genuinely lower than the Chinese, i. e., than the Singapore average, although perhaps not as low as the figures in Chapter 1 make out.

This finding might be linked to a number of factors, each connected with some theory of mental health. The racial hypothesis will be disposed of very shortly. More weighty, perhaps, is the fact that the Malays are Muslims, members of a strongly supportive religion. In considering suicide, much weight is customarily given to this point, and one might consider it likely to affect other forms of mental breakdown also. A third factor to be considered is that of nativity, for the Singapore Malays, although mostly coming from Malaya and other surrounding areas and although considering themselves

(12)
very much of a minority, are nevertheless closer to the roots of their own cultural tradition than are the Chinese, Indians, and Europeans. They like to call themselves 'sons of the soil' and are undoubtedly affected by this 'mystic union'. These points also we will consider in due course. But the most interesting hypothesis for present-day psychiatrists is linked to the fact that Malay culture offers a form of childhood which is very close to the ideal child-rearing pattern prescribed by certain writers. The infants are weaned late and rather casually, suffer no strict toilet training, and are allowed to sleep near the mother, often on her mat or in her arms, till the age of about five.* Breast feeding is given on demand, and after that is over the child is given whatever food it asks for, neither parent

* This picture of Singapore Malay life is derived mainly from Djamour (12), but with some support from (17) and (50).

seemingly being able to refuse it anything so that sweets may be bought with the day's market money. The infant is frequently fondled, kissed and carried about, and when it grows too old for such treatment the relations between mother and child, whether boy or girl, may show an intensity and coloring which is almost sexual, as between lovers. Discipline is at no time strict although corporal punishment may be casually given (and then tends to cause strife between parents) and with the exception of circumcision there are no ceremonies or phases which could be regarded as traumatic or as creating an abrupt change in role for the child. Moreover, to all this love there is no expectation on the part of the parents of material return, no assumption that they must be taken care of by their children when they grow old, or given a prime place in the family as with the Chinese. On the contrary, it is assumed that parents will continue to help their grown-up children by giving loans and making sacrifices without much thought of return. What the Malay parent does expect from her child is affection, so that children are brought up to believe that they cannot be really happy away from their mother; but this is not taught as a duty, merely as a natural phenomenon. All in all, therefore, the Malay child gets a very unfrustrated and affectionate upbringing in a culture which gives full weight - in the precepts governing the treatment of children after divorce, for instance - to the child's personal needs and desires. According to certain teachings, therefore, the mental health of such a population should be good, and it would be most interesting if we could here show that the apparent fulfillment of this expectation was fully valid.

To offer such a demonstration, however, we would have to show that there were no sections of our data which were incompatible with such a hypothesis, and it has already been mentioned that under certain circum-

stances the Malay rates are to be found higher than the Chinese (with whom we are mainly comparing them). Our next task must therefore be to consider these apparent exceptions and inquire into their possible meaning.

The first instance we may turn to is that of the male, 15-24 year age group. As Fig. VII showed, admission rates for this group slightly exceed those of the corresponding Chinese, the excess lying mainly in the manic-depressive category. The exception is not a serious one. This is the group who must make the breakaway from their very protective family home, must marry (more often moving near to or in with the wife's parents than remaining with the husband's) and must take on the economic responsibility for a new family. Relations with the young wife - very attached to her mother and being led into an arranged marriage, not a love match* - may be difficult and the youth may have mother-in-law trouble. This is the chief moment of transition in a Malay's life, from the period when he is dependent on his parents for emotional satisfaction to that when he is dependent on his offspring (the husband-wife bond being much weaker than that of parent-child); from the time when he is a carefree unemployed youth to that when he is settled in a stable, usually low-income, occupation. It probably does not mean anything very serious, therefore, if a number of these young men get acute, short lasting and apparently non-relapsing attacks of an affective disorder. In the more chronic and relapsing

* Among the Makassarese, another Malaysian people, it is thought necessary to use strong persuasion not only on the girl but also on the boy before they will reconcile themselves to being married and a whole institution of persuasion has been developed, apparently not only nominal. (7) But among the Malays this attitude is not held.

disorders the Malay male rate at this age is still definitely below that of the Chinese and of course very much below that of the Indians.

The remaining instances of Malay rates rising above Chinese ones, however, are not to be passed over so easily, for they combine in pointing to a possible weakness in the Malay mental health picture. Malay rates exceeded Chinese for certain occupational groups, for the most centrally domiciled, and - most important - for the overall admissions at a particular point in time.

The main occupational data are arranged in Table 29, and they offer more information than merely the observation - which could be chance - that the Malay rate is higher than the Chinese for one out of a dozen categories.

		Malay	Chinese	Ratio
The categories are	Messengers	18.2	91.7	5.0
listed in order of the	Drivers	35.4	84.6	2.4
Malay/Chinese rate	Pers. Service	28.0	59.8	2.1
differential, and when	Hawkers	33.3	67.3	2.0
we consider the pro-	Police, Postmen	48.0	80.0	1.7
gression it becomes	Shop Assistants	50.0	79.1	1.6
clear that they are	Teaching	53.6	71.4	1.33
also largely arranged	Clerical	41.2	50.8	1.23
in order of increasing	Trishamen	85.7	95.9	1.12
arduousness of employ-	Fish. & Agri.	41.5	46.8	1.13
ment. Either the	Labourers	74.2	76.5	1.03
physical effort	Domestic Ser.	25.0	25.0	1.00
increases as one descends the table, or personal initiative does,	Artisans	(110.0)*	85.4	0.77
the one main exception being in the case of domestic service	Commerce	85.7	31.4	0.37

TABLE 29. Comparative Mental Hospitalisation Rates for Malaysians and Chinese in different Occupational Categories, in Singapore; arranged in order of ratio of Malaysian to Chinese rates. (See Table 10 for full details.)
(*Doubtful significance)

(35)

As I have reported elsewhere, the incidence of students seeking where, as is discussed elsewhere, there are special reasons for the guidance or treatment for mental disturbances at the University of Malaya Chinese rate being so low. We are not dealing here with a question of was higher among the Malays than among the Chinese or Indians, although rates increasing with increasing urbanisation, as one sometimes meets; these Malay disturbances tended to be of a slighter nature. A similar nor can it be said that they increase according to the degree to which picture with respect to these students' families is given in Table 18 of the job deviates from traditional occupations in the Malay culture. the previous chapter, again with the Malays having an excess of minor conditions though not of major. Naturally, what constitutes minor conditions clear that the people in the upper half have usually ample time to relax in this context is not the same as minor in the mental hospital, and it is between spells of directed activity, whereas those in the lower half of therefore justifiable to question whether this evidence of a higher rate the table (with the above-mentioned exception of domestic servants) are of mental disturbance in Malayan intellectuals and their atypically ambi- kept occupied much more of their working day. (The table is arranged, of tious families is relevant to the main discussion on psychosis. The data course, to compare the two ethnic groups and hence its form is dependent from Java, however, leaves no doubt about the high incidence of psychosis on both, not simply on the Malays; but a glance will show that although, as in at least one category of Malaysian intellectual, a category covering is discussed in Chapter 8, the Chinese rates tend to decrease with the most ethnic subgroups in Indonesia and not merely the Javanese themselves. degree to which individual freedom and initiative is possible, the main trend in the table is dependent on the Malay gradient, not the Chinese.) prevalence, that there were 11 cases of frank mental disorder in a group of It would thus appear from this table that good Malay mental health is to of about 250 Indonesian doctors over a period of twenty years - a rate of some extent associated with the degree to which their lives remain relaxed about 22 per 10,000 per annum compared to a rate of about 8 per 10,000 in and easy, characteristics which are typical of traditional Malay life.* Indonesian army recruits. These doctors were undoubtedly a selected group among the population, coming from a small Dutch-educated class, with parents tions on university students, and from a report from Java. probably partly acculturated to the colonial pattern. Once they were

* There is even some indication that the Malaysians themselves hold this belief. The origin of more than one jungle spirit is attributed to a man trying too hard to find something (which may be possible or impossible of attainment, like a pregnant male deer) and, like the accursed huntsman, being turning into a wandering spirit. The implication in these stories - some versions of them at least - is that if he had not tried so hard, or had turned back when his companions did, he would not have become 'possessed.' (33, 70).

patients are not accompanied by low rates of mental disorder later if the

(35)

As I have reported elsewhere , the incidence of students seeking guidance or treatment for mental disturbances at the University of Malaya was higher among the Malays than among the Chinese or Indians, although these Malay disturbances tended to be of a slighter nature. A similar picture with respect to these students' families is given in Table 18 of the previous chapter, again with the Malays having an excess of minor conditions though not of major. Naturally, what constitutes minor conditions in this context is not the same as minor in the mental hospital, and it is therefore justifiable to question whether this evidence of a higher rate of mental disturbance in Malayan intellectuals and their atypically ambitious families is relevant to the main discussion on psychosis. The data from Java, however, leaves no doubt about the high incidence of psychosis in at least one category of Malaysian intellectual, a category covering most ethnic subgroups in Indonesia and not merely the Javanese themselves.

(21)

Gans in 1922 reported, along with other observations on incidence and prevalence, that there were 11 cases of frank mental disorder in a corpus of about 250 Indonesian doctors over a period of twenty years - a rate of about 22 per 10,000 per annum compared to a rate of about 8 per 10,000 in Indonesian army recruits. These doctors were undoubtedly a selected group among the population, coming from a small Dutch-educated class, with parents probably partly acculturated to the colonial pattern. (28) . Once they were qualified they did not need to fear competition, there being so few of them, but on the other hand they must have been in very great demand, able to make much money if they wished but very doubtfully able to gain any relaxation. On the whole, therefore, we find that Malaysian child-rearing patterns are not accompanied by low rates of mental disorder later if the

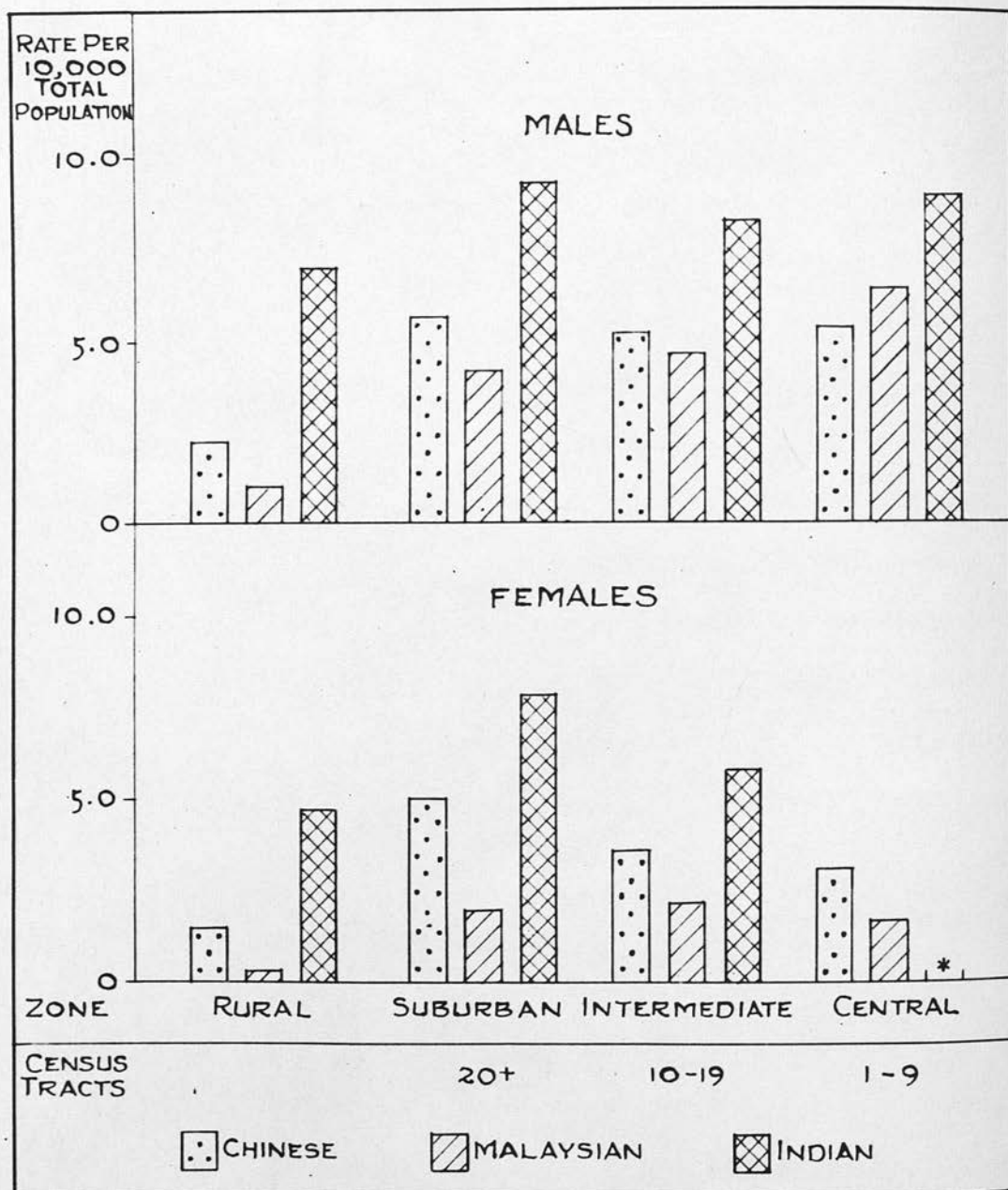
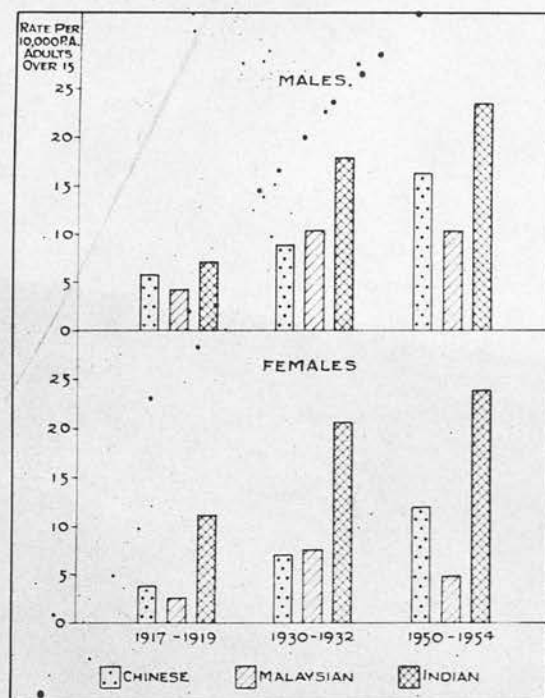


FIG. XII. Singapore mental hospitalisation rates by Zone of Urbanisation, for the three main Ethnic groups, by sex. (1950-54 hospital data applied to 1947 census. No correction for suburban development between 1947 and 1952 has been attempted, so that overall rates for suburban area are probably too high and those for central area too low. This figure should be read, therefore, only in connection with the Malay/Chinese comparison to which the text refers. * There were no Indian female admissions from the central area.)

occupation adopted in adult life is a strenuous or competitive one.

The next instance where a Malay rate exceeds a Chinese is in the central zone of Singapore City. Here again the fact of exceeding the Chinese rate at one point is less of interest than the pattern revealed when we study the graphs in Fig. XII. Here we see that the Malay male rate is much more affected by zone/^{of}urbanisation than any other group's. One could take this as reflecting the Malay's emotional attachment to his village community, but there is more to the story than that, for it is only the male rate which rises so much, not the female. Yet if attachment to community were the main factor, surely the female rate - which, as we will shortly see, is quite susceptible to social factors - would be more affected than the male, the women finding themselves isolated all day among Chinese and Indian neighbors. The fact that the female rate does not markedly change with urbanisation, therefore, suggests that it is not the isolation or anonymity of city life which is mainly affecting the male rate, and we know from Table 29 that it is not simply a question of urban-type occupation either. The one suggestion that I can make at this point to account for the steep rise in the Malay curve is that it must be the greater bustle and pressure of life outside the home which is mainly concerned.

Finally, and of greatest significance to the hypothesis that Malays by virtue of their upbringing should show a consistently high level of mental health, we have the finding that for at least one period in the past the Malay total admission rate was higher than the Chinese. Because of extrapolation difficulties connected with immigration I regard it undesirable to estimate intercensal rates in Singapore, and this leaves



VIG. XIII. Singapore Mental hospital admission rates for the periods 1917-19, 1930-32, and 1950-54, by sex and main Ethnic group.

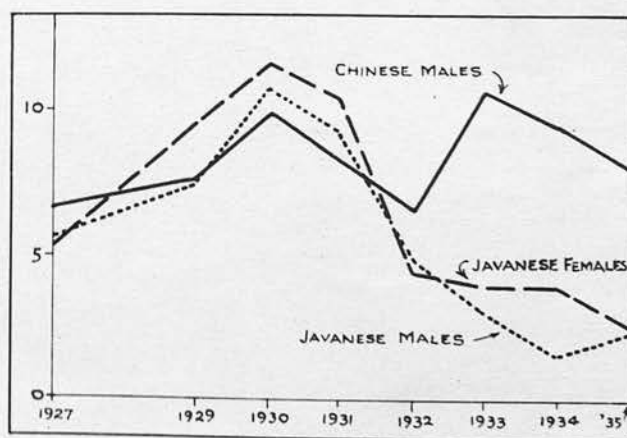


FIG. XIV. Incidence rates of Javanese and Chinese plantation labourers repatriated from Sumatra by reason of mental disorder; by year, 1927-35.
(Recalculated from Van Driel's (53) annual reports.)

me with only three occasions for which comparisons can be made. In one of these three periods, however, we find (Fig. XIII) that ^{the} Malay male rate exceeds the Chinese while the female rates are approximately equal. If we had been doing the present study at that time, therefore, the suggestion that Malays have so low an admission rate would not have arisen.

In interpreting this finding we must consider whether we are dealing mainly with a variation in the Malay pattern or a variation in the Chinese, and whether there was any reason to regard either period as in some way stypical. In Fig. XIII we see, as one would expect in the circumstances, that the average rate of admission has increased considerably since 1918, an increase which can be attributed mainly to greater public enlightenment and to greater availability of hospital beds. The Indian graphs have mounted steepest, the Chinese only slightly less; but when one comes to the Malay one finds that they are angled and one must assume either that the period 1930-32 had a rate above the average trend line, or that the period 1950-54 is markedly below that average trend. The absence of intervening data is most regrettable here, since from these graphs alone we have no sure answer, but, fortunately, there are closely parallel data from Sumatra which offer a solution.

Fig. XIV shows the recorded incidence of major mental disorder among plantation labourers in Sumatra during the years 1927 to 1935. These were not local Malays but were imported indentured workers from Java and from China. Thanks mainly to the efforts of one man, Dr. Van Driel, we possess very full demographic and health statistics about them, not only crude mortality rates ⁽⁵⁴⁾ but morbidity rates by diagnosis for a number of important diseases ⁽⁵³⁾. The curves here show the ratio of workers re-

patriated by reason of mental disorder, the decision to repatriate being taken by fully trained hospital doctors according to a uniform policy. For 1930-32 the average rate of repatriation for this cause was very similar to the average Singapore mental hospital admission rate, suggesting similar standards; but that is not the main point here. The period covered includes the years of the great economic depression, 1929 to 1933. One sees here that both before and after these years the Javanese rates for both males and females were below the Chinese male rate (the Javanese females were all workers, not dependents, and there were no Chinese females), but rose above the Chinese during the depression years. And it was for the depression years that we found the Malay rates in Singapore to be similarly up to or above the Chinese. The obvious conclusion, especially when linked to the occupational class rates quoted earlier, seems to be that the Malay and Javanese rates rose at this time because of the extra economic strains. It is true that in Sumatra at the time we are considering there were other disturbing social factors as well as the economic, for the years 1927-32 saw considerable labour tension, with the eventual breaking of the indenture system of recruitment and abolition of the notorious 'penal sanctions' clause in the labour law. But the types of strain induced by this struggle were not so different from those induced by the depression, and I think that they need not affect our coming to a conclusion from our findings. These findings, I think, suggest that whereas the Malays and Javanese do have low rates of mental disorder under favorable circumstances, these low rates are dependent on the relative ease and comfort of their environment and can be considerably raised by material pressures. Any hypothesis relating the Malay culture to mental health must

therefore be more complicated than the simple one originally suggested.

The inclusion of Javanese data in the last paragraph is a reminder that this chapter was entitled 'The Malaysians,' not 'The Malays,' and raises the question of what other groups are intended by the term. This question is necessary not only because of a presumed limit to the reader's knowledge of Asian ethnography, but because there is a real problem of definition involved. When we discussed the Chinese, no such problem arose, for a definition of what is Chinese can be obtained with considerable unanimity in a wide variety of fields. Similarly with the Indians; although the range was narrower and it was occasionally necessary in the previous chapter to specify that one was writing about some specific group - Dravidians, for instance, or Brahmins - and not the average man. But the different peoples of Malaysia have developed in such divergent ways since they scattered through the region some three thousand years ago ⁽³⁵⁾ that it is very difficult to find any common ground for them except in geographic and linguistic terms. In appearance, speech, family structure, religion, cultural history and art forms ^(10, 63) there are much wider variations than any we have hitherto had to consider here, even between quite contiguous groups such as the Atchinese and the Malays, or the Javanese and Balinese. One may doubt, therefore, whether it is justifiable to bring together here psychiatric or psychological data from the various peoples commonly included in the term Malaysian, and to attempt to carry an argument

success in their culture is disturbed, either by economic pressures or by changing ideals. The Javanese migrant labourers in Van Driel's material

from one to the other or to deduce some common cultural or psychological influence partially at work.

The main reasons encouraging me in such an attempt are the conditions of Amok and Latah, conditions of unusual character and unusual interest to psychiatrists, although by no means unique. Something like latah is found among Eskimos and other primitive groups, and outbursts of apparently undirected homicidal insanity similar to amok have been reported from many lands. (66) Nevertheless, the combination of the two in relative abundance seems to be confined to the Malaysians and at one time or another to have been found in almost all the constituent peoples of that group. Hence one must assume the continuing presence of certain common psychological traits underneath the considerable manifest differences which these peoples show, and it seems justifiable to survey existing data for other traces of a common psychopathology. At the very least one might be able to throw some better light on the genesis of these two conditions themselves, conditions which are still very poorly understood. (67)

So far our only conclusions have been that the Singapore Malays (who are really a very mixed group of Buginese, Javanese, and Sumatran as well as Malay origin, with 40% immigrants among them, but who show today a relatively uniform and essentially Malay culture) have probably a low rate of major mental disorder, but a rate which shows signs of rising when the traditional leisureliness and low emphasis on material needs or material success in their culture is disturbed, either by economic pressures or by changing ideals. The Javanese migrant labourers in Van Driel's material in another way, but they are also very poor, with small land holdings and no other means of support, and the summer allows only one crop a year. (78)

appear to show a similar trend, at least if the figures for the later years are accepted at their face value (I cannot trace whether the change in the labour laws in 1932 led to a change in repatriation policy, but presume there was none officially since I can find it nowhere mentioned, and Van Driel was a very careful epidemiologist), in both groups we find such changes occurring to a greater extent than among the corresponding Chinese. When we now come to consider data on other Malaysian peoples we will find that a low rate is by no means typical of their whole race, but on the other hand we will find that where high rates occur there have usually also occurred definite strain-inducing changes from the traditional way of life of the group. As a first illustration of this we may consider the Filipino immigrants to Hawaii.

The Filipinos in general are a very mixed racial origin, and there is the further important fact that they are Christian. Nevertheless one finds even in urban life many characteristics which I regard as similar to those found among their Indonesian and Malay neighbours, and in the barrio, in certain regions especially, the culture is very similar, so that it is justifiable, I think, to treat them as a Malaysian people. What mental disorder incidence or patterns they have in their own land we do not know for there is (or was, at time of my last visit) only one crowded mental hospital and no record of any psychiatric surveys. In Hawaii, however, their immigrants constitute a significant proportion of the population and we have already seen in Table 14 (page 91) that their mental hospitalisation there is quite high. These immigrants are not a representative sample of the whole Filipino people, being mostly peasants from Ilocos coast and from Visayan. As such they are likely to be more purely Malaysian, but they are atypical in another way, for their islands are very densely populated, with small land holdings and no cultivatable jungle, and the weather allows only one crop a year (72). Hence they cannot afford the leisurely tradition of the Malay

and of many other regional Filipino groups, but in contrast have in their homeland the reputation of being more thrifty, aggressive and disciplined than their fellows. Whether they have the same incidence of mental disorder as the rest of the Filipinos when in their own barrios we do not know, but that they have a high rate in Hawaii is undoubted. Comparing once more with the Chinese, we see in Table 14 that they have double the rate of schizophrenia and triple the rate for other psychoses. In other respects also they show difficulties; Lasker reports (73) that they are easily tricked and led into crime, and the statistics he quotes show them to have the second highest crime rate of all ethnic groups in the territory (highest were the Puerto Ricans). We need not debate here whether these high rates arise from migratory strains or might have been found in their homeland, perhaps arising out of the economic pressures they were exposed to. What is relevant is that where we find a Malaysian people under strong economic pressure and also, probably, under pressure towards cultural change, then we also find that their rate of mental breakdown greatly exceeds that of the Chinese immigrants with whom it is not unreasonable to compare them. Admittedly, the Chinese were longer established in the territory, but that does not seem a sufficient explanation for so great a difference in rates. The marked sex imbalance of the group may be more of a factor, for the women did not remain shut in their houses and their taking of lovers was a frequent cause of strife (73); but we need not go into this. It is enough to recognise that there were definite strains in the situation and that traditional ways of life could not be maintained.

The next instance of a high rate of mental disorder in a Malaysian people offers us much more chance to discuss causation. It refers to the Atchinese in the northern part of Sumatra. The Atchinese were the most martial and aggressive of the Indonesian peoples. They had a considerable culture of their own, were fanatic Muslims, had waged a savage, fifty-year war against the Dutch colonial armies, and at the time we are concerned with they were still suffering severely from the results of that war, which had ended eight years previously. Our main psychiatric data on them came about because the Dutch governor of the conquered province noticed that there seemed to be an undue number of insane people in the villages he visited, and in 1918 he ordered a census of such cases through the village headmen, to be followed up by the psychiatric visiting of a sample. The census of insane cases came to 1,100 in a population of approximately 734,000, giving a prevalence rate of 15.0 per 10,000. Considering the way in which the data were collected and the suspiciousness with which such an inquiry must have been viewed by a recently conquered people, this rate is extraordinarily high. By similar census methods Indian and Chinese inquiries (noted in previous chapters) arrived at rates of only 3.5 and 3.4 per 10,000. And there was no question of the reported cases being light ones or the instructions having been misinterpreted. In 1919 the leading Dutch psychiatrist in Indonesia went into the area, saw a large sample of the cases which had been reported, heard of others who should have been reported had the headmen been more trusting, and by giving us brief notes on almost every case demonstrates that he was seeing

mainly serious chronic conditions and not simply transient malarial con-
fusions such as were common in other parts of the territory (56). Nor was
this all. Van Loon noted that there were marked variations in the
incidence of cases in different districts visited. In the South-East
corner of the province, where the population was almost wholly Malay and
not Atchinese at all, he found very low rates, 5 cases for a population of
about 26,000 or a rate of 0.2 per 10,000 (chance range of ± 2.5 at 3 S.E.).
This was the most peaceful and cooperative area and the least likely to
suspect the Dutch intentions or to conceal cases. On the other hand he
found the incidence increasing as he went Northwest, being highest in the
centre of Great Atcheen, i.e. near the ancient centre of Atchinese culture,
and the centre of resistance to the Dutch, where rates went as high as 200
per 10,000.

The Atchinese differed from their Malay neighbours in several
respects. They were not of as pure Malaysian race, having probably some
admixture of Indian and Vedda blood. (25) Their child-rearing patterns
were not nearly so mild and their family had a patriarchal pattern (26).
They had been aggressive and adventurous, both culturally and martially,
whereas the Malays developed very few means of communal expression and
were relatively peaceable. And, of course, they had suffered severely
both from the war and from the syphilis (56) which the colonial soldiers
brought with them, whereas the Malays largely cooperated with the Dutch
and benefited from their rule. We have therefore to consider whether the
difference in mental disorder rates is likely to have arisen mainly from

differences in racial constitution, or differences in cultural tradition, or from differences in recent social experience. Fortunately, we have some evidence to help us here. Some twenty-five years earlier another Dutch doctor and amateur anthropologist worked in the region, gave us a very full description of their social and family life, and also reported briefly on types of mental disturbance (26).

		Male		Female	
		Number	%	Number	%
From him we gather, first,	Schizophrenia	51	46.4%	9	22.5%
that mental disorder	Paranoia	3	2.7%	-	-
was relatively rare,	Man-Depr. Psy.	7	6.4%	2	5.0%
	Confus. States	9	8.2%	13	32.5%
	Dementia (inc.				
secondly, that it ten-	G.P.I.&organic)	22	20.0%	6	15.0%
	Epileptic Psych.	6	5.5%	-	-
ded to take the form of	Senile & Arterio.	9	8.2%	4	10.0%
	Puerperal Ps.	-	-	5	12.5%
acute transient con-	Undiagnosed	3	2.7%	1	2.5%
	<u>TOTAL</u>	<u>110</u>	<u>100.1%</u>	<u>40</u>	<u>100.0%</u>
fusion states (as is	Mental Defect	13		11	
	Epilepsy	4		2	

TABLE 30. Cases of Mental Disorder found during a Psychiatric Survey of 29 villages in Atchen (Sumatra) in 1920; Atchinese cases only, by sex and diagnosis. (Compiled from Van Loon (56).)

more than men. Now, these observations are in marked disagreement with what Van Loon found in 1919. Table 30 summarises the latter's suggested diagnoses for the Atchinese cases (excluding other Malaysians seen within the province at the same time), and shows first that male cases greatly exceed female, and secondly, that whereas in the females the confusional and organic type of case still predominates, in the males almost half the cases are schizophrenia. Unfortunately, Van Loon did not notice this sex difference in his material, to average) show a difference far beyond the possibilities of chance

variation. In Kampong Buitenzorg he found 50 serious cases, plus another or at least did not comment on it, but he does tell us most interestingly 25 in hospital, for a population of about 25,000; in Lawang with a that there had been a reversal of certain sex roles or attitudes with the population of about 17,000, he found only 5 cases and a further two end of the war. Whereas the women had formerly been quite subordinate - former patients. It is possible that at Buitenzorg, which was the rather in the Indian pattern - and the men were the active cultural leaders older and better known hospital, there had collected patients hoping for both in peace and war activities, now the men seemed to spend most of their admission, and relatives of patients; he does not say. My own inquiries time watching football matches, etc., and the upholders of the Atchinese indicates that the Buitenzorg population had poorer land (both places were tradition were the older women, many of whom showed scorn for their overpopulated, as all Java is, having the highest rural density in the menfolk.

World after the Nile Delta, with much poorer soil) and had been exposed. If we can take Jacobs' reports at their face value we have a to quite close contact with Dutch colonists, there having been a big fairly clear answer to our last question. The difference between the military centre there. Gans also gives the figure of about 20 psychiatric Atchinese and Malay mental disorder rates must have arisen mainly not out discharges from 25,000 native soldiers in the Dutch Colonial Army per annum, which of racial difference or differences in basic culture, but from the impact is a lower rate than either the Indian Army peacetime discharges cited in of recent events, events which tended to destroy the Atchinese culture while Table 19 or the Chinese Labor Corps mental hospital admission rates in leaving the much more humble Malay one untouched. Also, we have a further France (page 51). On the other hand an inquiry from medical colleagues suggestion that under culturally satisfying conditions - such as the and from private patients suggested to him an unusually high rate of Atchinese possessed as long as they were still hopeful warriors - another mental disorder among their relatives. It is possible that there was a Malaysian people may have had a relatively low level of mental disorder. social class difference here, as we have seen with the student class group

The remaining few studies offering estimates of prevalence or incidence add little to the overall picture I am trying to attain. In (2) Formosa, next, we have the survey of Malaysian hill tribes Java Gans did prevalence surveys of two villages, each one near a by Tsung-Yi-Lin and his colleagues. This is unpublished at time of mental hospital. But unfortunately, he does not tell us anything more writing, but I gather from Dr. Lin that the over-all incidence was rather about the surveyed population, does not give us his survey technique, lower than for the lowland Formosans and Chinese, and that the type of and the resultant rates (which he and subsequent writers have been content psychotics tended to be much more the transient confusional rather than the to average) show a difference far beyond the possibilities of chance

variation. In Kampong Buitenzorg he found 50 serious cases, plus another 25 in hospital, for a population of about 25,000; in Lawang with a population of about 17,000, he found only 5 cases and a further two former patients. It is possible that at Buitenzorg, which was the older and better known hospital, there had collected patients hoping for admission, and relatives of patients; he does not say. My own inquiries indicate that the Buitenzorg population had poorer land (both places were overpopulated, as all Java is, having the highest rural density in the world after the Nile Delta, with much poorer soil) and had been exposed to quite close contact with Dutch colonists, there having been a big military centre there. Gans also gives the figure of about 20 psychiatric discharges from 25,000 native soldiers in the Dutch Colonial Army per annum, which is a lower rate than either the Indian Army peacetime discharges cited in Table 19 or the Chinese Labor Corps mental hospital admission rates in France (page 91). On the other hand an inquiry from medical colleagues and from private patients suggested to him an unusually high rate of mental disorder among their relatives. It is possible that there was a social class difference here, as we have seen with the student class group in Singapore.

From Formosa, next, we have the survey of Malaysian hill tribes by Tsung-Yi-Lin and his colleagues. This is unpublished at time of writing, but I gather from Dr. Lin that the over-all incidence was rather lower than for the lowland Formosans and Chinese, and that the type of psychosis tended to be much more the transient confusional rather than the

chronic functional. There were also some differences in prevalence relating to degree of acculturation to the lowland majorities, but I do not have details of these. Finally, going still further away and by now dealing with a people only doubtfully Malaysian, we may note the psychiatric survey by Murray and Joseph in Saipan (27). There, for a population of 4,796, they found 10 cases of major mental disorder, four of whom had probably schizophrenia while another two showed schizoid features. Four of their cases were of recent origin, so that one gets a prevalence rate of 20 per 10,000 and an incidence for the previous year of 8 per 10,000. Of course, one is dealing with very small numbers here and the chance range of rates is very great. It may still be of interest to note, however, that 9 of their 10 cases came from the Christian, 'civilised', Chamorro majority, while only 1 case came from the more traditional, unchanged, Carolinians who comprised 25 per cent of the group, giving once again the impression that the group remaining closest to their original, easy-going culture may have the lower rate.

That exhausts the available data on crude incidence or prevalence.

TABLE 31. Percentage Age Distribution of Malaysian Male Admissions to Singapore Hospital, 1923-27, and the United States of 1917 and 1926-27; divided into those recorded as Malay and those recorded as Javanese, Chinese, and European.

In the above discussion we have taken some cognisance of sex differences, but little of age or diagnosis, and it is now time to turn to these, taking Singapore as our starting point as usual.

The main thing about the age distribution of the Singapore Malay figures is the sharp decline of the male rates with age. This decline is more acute than with any other of the groups we have been

considering and it is the low rate in old age which accounts mostly for the impression we possess of the Malays as being the least psychotic of these groups. But this unusual age distribution is still less remarkable than that which appears when one tries to separate out the native-born or peninsular Malay patients from the Malaysian immigrants of Java, Celebes, etc. Such a separation is not fully possible, for a reading of case histories shows that the hospital records have included many over-seas Malaysian cases under the title of Malay, but on this particular question of age distribution it seems worthwhile presenting the recorded immigrants and the others separately. This is done in Table 31, for the period 1950-54 and also for two earlier periods from which the male - but not the

Fact.	1 9	1 7*	1 9 2 6 - 2 7*		1 9 5 0 - 5 4	
	Malay	Others	Malay	Others	Malay	Others
15-24	43%	0%	14%	23%	41%	21%
25-34	43%	37%	57%	31%	35%	26%
35-44	14%	13%	24%	23%	15%	21%
45-54	0%	13%	5%	23%	7%	21%
55+	0%	37%	0%	0%	2%	10%
	100%	100%	100%	100%	100%	99%
N.	7	8	21	13	150	39

TABLE 31. Percentage Age Distribution of Malaysian Male Admissions to Singapore Mental Hospital; 1950-54 and for limited periods of 1917 and 1926-27; divided into those recorded as Malay and those recorded as Javanese, etc. Percentages to nearest whole number.

* For 1917 and 1926-27 only single volumes of records have survived the 1940-45 Japanese occupation; hence only small numbers are available for these years. to be Arab and their political Indonesian, so little do they

female - admission records happen to have survived. We see that for the three periods the proportion of 'Malay' patients over the age of 45 was 0 per cent, 5 per cent, and 9 per cent, respectively, while for those recorded as Javanese, Buginese, etc., the equivalent proportions were 50 per cent, 23 per cent, and 31 per cent. Remarkable differences! And it does not occur with the females, as far as the relatively few cases permit us to calculate. We may presume that there are younger Malaysian immigrant cases included in the Malay group, so that the high percentages of old people in the 'other Malaysians' columns may be an artifact, but it is in the last degree improbable that there are older native-born or peninsular Malays who have been recorded as Javanese, etc., and hence the low rate of hospital admission for this age group of the natives must be taken as a fact.

Conventional theory does not lead us to expect such a result. The Singapore Malay culture does not exhibit the marked respect for old age or the marked family cohesiveness which are characteristic of the Chinese and some Indian groups. Tradition is for the family to split into nuclear units, giving moderate support to relatives as they need it but also expecting that the village community (if there is such) will offer some social insurance. The older male is given no special status in the community, no special title of Elder or leader (their religious leaders tend to be Arab and their political Indonesian, so little do they think of leaders arising from the people), and it is in no way customary and even, perhaps, from his females. The immigrant by his very migration

for him to retire as soon as his children can support him (as happens with some Chinese families); on the contrary, his grown-up children will think nothing of asking him for financial help even if he has to resume or redouble his work to do so. Hence, there is neither the economic security which I suggested might be a factor in reducing the ratio of senile cases in Chinese extended families, nor the family concern and respect which might lead to the retention of disturbed elders in the home. It is true that a poor family medical history tends to impede marriage arrangements, but with the normal Malay-style living it is impossible for neighbours to remain ignorant of the existence of some mental disturbance in a family member, so that concealment, such as is possibly practiced in the small Malay upper class, would be ineffective and hence purposeless for the great majority.

The features of the culture which seem most likely to be linked to this apparently high level of mental health in the older Malay male are the system of insuring emotional supplies from one's children (who are adopted if they cannot be conceived) and the absence of striving. Of these the latter would appear to be the more important or more specific in the present situation, for an emotional richness in the parent-child relationship does not differentiate the native Malay male from either the female or from his immigrant fellow, and both the latter groups fail to show the same marked decline in latter life. On the other hand the question of striving does differentiate the native male from the immigrant and even, perhaps, from his females. The immigrant by his very migration

has marked himself as one who seeks and hence values economic betterment, and from his political activities and preferred occupation (trade*) we can assume such ambition to be general. The female, of course, is not usually ambitious, but since divorce is easy and widowhood not uncommon she may find herself forced, once her physical charms are faded, to make her own living, a matter of much greater difficulty and effort for her than for the man since she has never when younger been educated to such an end. The Chinese older woman in such a situation would depend on her growing children or even on her nephews to care for her, or will have learnt to do outside work when younger; but with the Singapore Malays neither of these reactions is customary and hence such women are reported to live an uncomfortable life (12) with, often dependent on their brothers but not accorded a formal position in that brother's family, or living alone. We see from the diagram that there is a rise in the female rates at the menopausal period, but this rise does not consist of involutinal melancholias, such as we will find among the Eurasians; it consists to an unusual extent of chronic organic type cases. Outside of Singapore, the main point that develops from a reading

of the literature is the difficulty in distinguishing the acute organic from

* The fact that the Malaysian immigrant strives for economic betterment and enters trade may not mean that he attains a higher economic level than the local-born Malay in the first generation. There is a greater adverse differential between the average immigrant and local-born Malaysian incomes than between immigrant and local-born Chinese or Indian incomes, at least within the city. seem worth remarking on, since difficulties or discrepancies

in diagnosis have been repeatedly demonstrated in all countries and we have

* I believe that the development of G. P. I. is dependent on other factors as well as the presence of syphilis, but of course the latter must be admitted to be much the major factor.

There are no proper data on the age distribution of Malaysian mental cases, from any other source and we may therefore pass on to the question of diagnosis. Here there is a fair unanimity regarding patterns and problems, though as with total rates we find the picture shifts according to social pressure. In Singapore only two relatively minor points stand out. One is the almost complete absence of puerperal psychosis, in strong contrast to the Indian picture and quite according to expectation from our comparison of the two cultures. The other is the relatively high rate of G. P. I., especially among the immigrant group. Evidence both from Sumatra and from Singapore suggests that the expectation of G. P. I. developing in a syphilitic patient is slightly, but only slightly, lower than with the Chinese ⁽⁴³⁾, and hence this G. P. I. rate can be taken to reflect mainly the level of syphilis in the community, which is quite high. However, the high percentage of cases (31% of admissions between the ages of 35 and 55, both sexes) having this almost* wholly organic basis makes even more striking the lowness of the overall admission rate.

Outside of Singapore, the main point that develops from a reading of the literature is the difficulty in distinguishing the acute organic from the true schizophrenic type of disorder in these peoples, and the further difficulty in specifying a cause for the organic type of illness. This would scarcely seem worth remarking on, since difficulties or discrepancies in diagnosis have been repeatedly demonstrated in all countries and we have

* I believe that the development of G. P. I. is dependent on other factors as well as the presence of syphilis, but of course the latter must be admitted to be much the major factor.

Even in Singapore, where the number of diagnoses of acute organic type already noted a borderline type of confusional schizophrenic case both disorder was low for Malaysians during 1950-1954 (having been much higher in the Chinese and the Indians. But the point has been especially remarked on by workers in the Netherlands Indies (46,42,15,16,52), who the difference is striking. The percentage of (60,44) have linked it to theories about the Malay psyche, and I also feel this diagnosis was 13% at age 15-34 and 14% at age 35-54 for Malays, that the frequency of such cases is exceptional and significant. Statistically the difficulty can be demonstrated by comparing the diagnoses of successive superintendents to the same hospital (48), or by taking the prognosis reported by writers holding different points of view. Where gets the definite impression that, comparing hospital with hospital or the diagnosis of acute confusion or 'amentia' or 'syphilitic insanity' is district with district, outcome is linked to social conditions both dominant one finds that the cases labelled thus contain a significant proportion who go on to chronic schizophrenic states (57). Where that diagnosis is rarer one finds that recovery or discharge in this category is almost 100% (68) while from the same author the prognosis for schizophrenia is also much better than the average. However, it seems clear that when cases can be seen early enough a large proportion of the caseload rather than a prison atmosphere (57,44) consists of such confusions, some of them associated with malaria, in Singapore (1841-1850) when a surprising degree of care and understanding some with a positive blood W. R. (which could also indicate yaws, however), was shown with occupational therapy, etc.; and (c) in the later years when and many with no single predominant organic concomitant. Also, it can be such ideas were reintroduced. Prognosis was worst in the period worked out that where local-born groups can be compared with migrant between 1890 and 1920, when the asylums were at their poorest and most Malaysians or with other Asians, the proportion of such acute organic prison-like. In this middle period, of course, the chances of recovery type cases is usually higher in the local-born than in the others.* were seriously affected by the prevalence of diseases such as cholera,

her * e.g. Malcolm Watson - discussion at end of (47).

Even in Singapore, where the number of diagnoses of acute organic type disorder was low for Malaysians during 1950-1954 (having been much higher in the previous quinquennium under a different superintendent) the difference is striking. The percentage of first admissions with this diagnosis was 13% at age 15-34 and 14% at age 35-54 for Malays, but only 4.5% and 0% respectively for overseas Malaysians.

Most writers who have mentioned the subject agree that it is not possible to predict accurately the outcome of such cases, but one gets the definite impression that, comparing hospital with hospital, or district with district, outcome is linked to social conditions both within and without the asylum. We have already noted among the Atchinese that the ratio of schizophrenia to confusion was much higher among the men than among the women, and that it was on the men that recent social events had fallen hardest. In hospitals, one finds that the best prognoses were (a) in the new Dutch asylums in the 1920's when a hospital rather than a prison atmosphere was developed; (b) in the very early days in Singapore (1841-1850) when a surprising degree of care and understanding was shown with occupational therapy, etc.; and (c) in the later years when such ideas were reintroduced. Prognosis was worst (52) in the period between 1890 and 1920, when the asylums were at their poorest and most prison-like. In this middle period, of course, the chances of recovery were seriously affected by the prevalence of diseases such as cholera, beri-beri, and dysentery, but my impression is that the chance of a case

becoming chronic was linked more to the state of administration at a specified time than to the level of reported somatic disease. In Taiwan, again, the ratio of confusional to schizophrenic cases among the Malaysian hill tribes appears to be linked to their position vis-à-vis the Chinese majority.

With the confusion states themselves there was still the unsolved problem of organic versus psychogenic origin. In countries where to a clear psychogenic cause but Palthe from a different centre cites malaria, malnutrition, worms, yaws (giving a seriological reaction identical with syphilis), and sometimes syphilis itself are so abundant it is very easy to find evidence of one or another of these conditions if one searches. Hence one finds some psychiatrists labelling every disease with it specific tradition, etc. (though apparently the reaction in the latter type of case may be less a true organic type confusion than a trance state the diagnosis rather than to the psychiatric examination. That such agents are sometimes a major factor seems undoubted. One can in certain areas of Malaysian confusional states, however, seem to present not a clear picture of organic or of psychogenic origin, but rather a history where monsoon and malarial seasons. Similarly, there is evidence that as compared with the Chinese the Malaysians show a different initial - though not different final - meningeal response to syphilis. Heinemann's figures (23) quoted opposite show that in twenty

		Pleocytosis		Wassermann		T.
		+	-	+	-	
Indian (or East African, so far as reports suggest)	Javanese	7	3	3	7	10
cases diagnosed as cerebrospinal	Chinese	8	2	8	2	10
to protect the physical condition with electropexy.						
syphilis at plantation clinics (and						

From these second-hand observations on the types of Malaysian hence earlier than for hospital cases) the Javanese had quite a different rate of mental disorder (for the Singapore material is not typical here) one Wassermann conversion from the Chinese. But it is also established that gets a developing picture of the Malaysian nervous system and psyche as

being unusually susceptible to external influences but not usually sustaining many cases show no such definite connection with a specific organic disease, while some of those which apparently do are found to recover pressure can be relieved or avoided.* On an individual basis, therefore, before specific therapy could have time to work. On the other hand one finds something like the picture we got for the overall population - frank psychogenic causes were apparently also not easy to agree on, breakdown rates, i. e., that the Malaysian mind does not often (57) although this may vary with locality and culture. Van Loon could ill or persist in illness through distortion of a behaviour pattern, only attribute four out of 333 cases with acute confusional psychosis. Hence, mental breakdown is unlikely where the environment is easy. On the other hand breakdown does appear to develop relatively easily when environmental (44) along with organic causes - quite a number of psychogenic precipitating (44) situations - organic and psychic - increase. This, I think, is the one generalisation which it is useful to make about Malaysian psychopathology, the generalisation which we set out to find when it was decided to persist in viewing all Malaysian peoples as one group. (44) the Indians and Chinese - instances of loss of 'face,' conflict with tradition, etc. (though apparently the reaction in the latter type of case may be less a true organic type confusion than a trance state, evidence does not give the impression that such susceptibility is unchangeable, at least for the individual. The incidence of confusion states is of Malaysian confusional states, however, seem to present not a clear picture of organic or of psychogenic origin, but rather a history where class scarcely manifest this type of disorder and neither do the declared both physical and mental stresses have piled up and where mere relief overseas Malaysian group. Regarding social class, the probability is that from both for a limited time will effect cure without relapse. In the better nutrition and relative freedom from serious worm and other invasion or infection plays an important part, but that is not true of the simpler Malaysian case there seems less risk of death than with the Indian (or East African, so far as reports suggest) and less necessity migrant group. The question therefore arises why the latter show almost no to protect the physical condition with electropepsy.

From these second-hand observations on the types of Malaysian mental disorder (for the Singapore material is not typical here) one gets a developing picture of the Malaysian nervous system and psyche as

being unusually susceptible to external influences but not usually sustaining any permanent molding from such influences provided the precipitating pressure can be relieved or avoided.* On an individual basis, therefore, one finds something like the picture we got for the overall population breakdown rates, i. e., that the Malaysian mind does not often make itself ill or persist in illness through distortion of a behaviour pattern. Hence, mental breakdown is unlikely where the environment is easy. On the other hand breakdown does appear to develop relatively easily when environmental strains - organic and psychic - increase. This, I think, is the one generalisation which it is useful to make about Malaysian psychopathology, the generalisation which we set out to find when it was decided to persist in viewing all Malaysian peoples as one group. But our evidence does not give the impression that such susceptibility is unchangeable, at least for the individual. The incidence of confusion states is related to social class and to nativity, for instance, for the upper middle class scarcely manifest this type of disorder and neither do the declared overseas Malaysian group. Regarding social class, the probability is that better nutrition and relative freedom from serious worm and other investigation or infection plays an important part, but that is not true of the immigrant group. The question therefore arises why the latter show almost no confusional cases, but an unusually large proportion of G. P. I. It would

* Travaglini notes that three of his cases of confusional psychosis relapsed when they were returned to a stressful environment (68).

The earliest written references to the word amok in Malay or European literature show it to have meant a savage attack or a redoubted warrior. A hunt through the early Malay epics (fifteenth century, but probably reflecting an earlier oral tradition) reveals no instance of the word being associated with the concept of insanity or its likely equivalent, possession by an evil spirit; and an authority on Malay literature, Inche Zainal-Abidin, tells us that this was true up until the present century. Typical amok attacks are described, but the implication is always that the action can be

Amok and Latah

Many of the remarks in that last paragraph are equally appropriate to the two conditions especially associated with Malaysians, latah and amok. It is now time that we considered these more fully, putting them into the context of what we already know of Malaysian psychopathology.

The main thing to realise about latah and amok is that neither is a disease in the ordinary sense of the word. They are primitive reaction states, the one happening repeatedly, the other usually only once, which can occur in minds that are otherwise healthy or can be associated under special circumstances with more than one type of wider mental disturbance. In both there is a close association with social context, as is illustrated by the fact that neither is reported to have occurred among Malaysians settled in Holland, but for amok one can see this clearly only by taking a historic view.

The earliest written references to the word amok in Malay or European literature* show it to have meant a savage attack or a redoubted warrior. A hunt through the early Malay epics (fifteenth century, but probably reflecting an earlier oral tradition) reveals no instance of the word being associated with the concept of insanity or its likely equivalent, possession by an evil spirit; and an authority on Malay literature, Inche Zainal-Abidin, tells me that this was true up until the present century. Typical amok attacks are described, but the implication is always that the action can be understood as one of the possible, one of the natural, reactions to a situation of frustration, incitement or loss of 'face' in which the person found himself. Nor, if the amok survives the episode, does he usually suffer from any disturbance worse than anxiety regarding retaliation. Galloway, from an unquoted source, tells us (20) that the word was also used to describe excited mass attacks on a neighbouring people subsequent to the recital of one of the ancient epics, and one of the earliest Portuguese references is to a king having 'cinco mil amoucos' (69). Clearly then, amok at that time was a socially understood and largely conscious or deliberate act, not necessarily leading to the person's own death. It could be used as a form of suicide, but not because other forms of suicide were forbidden.

*The best discussion of etymology occurs in a glossary of Anglo-Indian words curiously entitled Hobson-Jobson (69), though only European sources are used. I can find no justification for the suggestion that the word is of Indian origin.

aggressive behaviour as piracy became unprofitable. In Penang and Singapore, especially, social opinion swung against the heroic ethic of that earlier age. The ex-pirates there, age, / buffeted by the Dutch, swore to abide by the British peace,* and a

*There exists a most graphic description of the sighting of large English fleet outside the newborn and almost defenseless Singapore, of their sailing in, and of their requesting sanctuary in return for a promise to live peacefully.

different form of amok came into prominence. Oxley, Singapore's first medical officer, describes it as follows:

"Debtors are made over to their creditors as slaves. Some of these, preferring death to slavery, will with drawn swords rush on, stabbing all whom they fall in with of lesser strength than themselves until they meet death at the hands of someone more than a match for them. This person (the man who killed the amok-runner) the creditors then sue in court for the dead man's debt." (Conti, 1413) (11). "On examination of these monomaniacs I have generally found them to be

"There are some of them (Javanese) who if they fall ill of any severe illness vow to God that they will of their own accord seek another more honorable death in his service if they regain their health, and as soon as they get well they take a dagger in their hands and go out into the streets and kill as many persons as they meet, both men, women and children, in such wise that they go like mad dogs, killing until they are killed." (Barbosa, 1513) (5)."

In the first instance there is the special motive of saving one's family from the burden of one's own debt; in the second, there is the idea of gaining special merit in heaven, an idea which appears to stem from the time of Hasan-i-Sabah and his Assassins and to have continued down into the twentieth century when the Dutch gave the special term of 'Atchinese Murder' to the unprovoked killing of an infidel by a Malaysian Muslim.

At that time the more aggressive Malaysian peoples lived by piracy, raids and warfare, and aggressive behaviour even of as primitive and extreme a nature as this could be socially useful and hence ego-integrated. Whether other forms of amok occurred at that time we do not know, but it seems probable that the forms described were the major ones. With the arrival of Western trading posts and Western warships in these waters, however, such aggressive behaviour as piracy became unprofitable. In Penang and Singapore, especially, social opinion swung against the heroic ethic of that earlier age. The ex-pirates there, buffeted by the Dutch, swore to abide by the British peace,* and a

found to add to the sum of one's frustrations instead of relieving them.

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different form of amok came into prominence. Oxley, Singapore's first medical officer, describes it as follows:

"A man sitting quietly among his friends and relatives will without provocation suddenly start up, weapon in hand, and slay all within his reach." . . . "The next day when interrogated the answer has inevitably been 'the Devil entered into me, my eyes were darkened, I did not know what I was about.' I have received the same reply on at least twenty occasions ... "On examination of these monomaniacs I have generally found them to be labouring under some gastric disease or troublesome ulcer, and these fearful ebullitions break out upon some exacerbation of the disorder. (41)"

Here we see that two changes have taken place. The main precipitating frustration becomes somatic instead of social, disease instead of insult; and the identification with the act is now denied, the primitive impulse being attributed to the devil. In symbol of this denial, this darkening of the eyes, these cases sometimes fought with their eyes closed ("mata gelap"). But we must also note that they are behaving and conversing quite normally - apart from a situational depression - the day after the occurrence, and do not show any signs of further or deeper mental disturbance. Also, it is not clear in this phase how impotent the ego was to intervene and prevent the outburst. When it was ordered that all amok cases must be captured alive and go through the slow process of British law, and when a British judge used the occasion of one such case to deliver a savage and bigoted attack on the Malay people and the Muslim religion, the incidence of amok in Penang (13) and Singapore dropped markedly. It is possible that at that time sickness was felt to be an attack by an unidentifiable enemy using magic, for this belief in sickness being caused by magic is alive today even among the educated classes. (31) Hence a retaliation on the environment would still have some meaning and would be fully restrained only when such retaliation was found to add to the sum of one's frustrations instead of relieving them. and prison), one of whom had arteriosclerotic psychosis, two schizophrenia,

Oxley's cases were suffering from physical disorders, not mental, but he noted that they often appeared moping or melancholy for a few days before the attack. Fifty years later Ellis reports, concurrently with the fact that amok has become much rarer, that a condition called "Sakit hati" (13) (heart sickness) is now quite well known. This condition consists of four or five days of melancholy brooding over real or imagined wrongs, usually accompanied by diminished mental activity and followed by impaired memory for the event. All his amok cases denied knowledge of the event, but most of them were still returning to mental normality the day after the attack. One therefore gets what appears to be increasing control and internalization of the reaction, with short periods of depression substituting for the previous short period of acute aggression, and with an increasing dissociation of the event from the ego's consciousness. He does not mention chronic physical illness, but describes one case in a chronic mental patient.

Twenty-five years later chronic physical illness is almost never found as an attributed factor, but instead acute fever with resultant confusional psychosis comes into prominence. Six consecutive cases seen by (18) Fitzgerald, for instance, were suffering from quartian malaria. In such cases, as in the normal confusional psychotic, recovery is still occurring rapidly, with no apparent residual mental disturbance, but amok is now reported in cases of chronic delusional psychosis as well, and this trend increases as one passes on to the more recent papers so that amok, which in any case is becoming very rare, becomes a reaction found almost only in cases of serious mental disorder. (4) Amir, in the 1930's, reported on only five cases seen over many years (and he was in charge of the psychopathic hospital and prison), one of whom had arteriosclerotic psychosis, two schizophrenia,

one acute malarial confusion, and only one was what he calls a psychopath in the Maldives, where children are trained at an early age to withstand where normal mental functioning was present soon after the attack. Today amok is virtually unknown in Singapore and Malaya, and reported by Oesterreicher to be quite rare in Java.

From this historic review it can be seen that there were three main types of amok. At first the condition was socially recognised and largely ego-integrated. Then society withdrew its recognition, it ceased to be integrated in the conscious layers of the ego, but there was only a thin barrier between the impulse and the outside and this thin layer could be burst through without damage to ego structure. Finally the impulse gets buried much deeper so that it rarely shows itself at all, and when it does it is usually associated with mental disease. And among the Malays, where freedom manage to burst through it usually means that the ego has been weakened by and masculine aggressiveness in childhood is strongly overvalued and where fever or mental disease beforehand. Also, in the latter type, the disruption of mental structure is very high. The incidence was very high. The importance of the restrictive nature of the local society in the genesis of process. The last type of amok may certainly be called a mental disease, amok attacks is also suggested by the experience in mental hospitals. In or the accompaniment of mental disease, since it implies damage to mental structure. The earliest type, however, is not a disease at all, it is at times when the newer, better staffed, hospitals were built, with a freer, most sociopathic; while the second type is in a between stage where a dis- more helpful attitude, amok just disappeared within them. Another ruction of mental structure occurs but is immediately repaired. It is a possible factor is the belief in the possibility of magical aggression. wound, not a pathological process.

Both van Loon and Palthe describe cases as having the appearance of panic and as reporting having seen just before the attack the illusion of a tiger. In Malaysian mythology, illness is often thought to be caused by a tiger-able to burst out without recognisable internal conflict or damage. On the spirit, "Hantu Belian," and were-tigers are believed to be temporarily meta- first point it is possible that amok comes out especially where local cus- tom imposes heavy restrictions on adolescence and adulthood while leaving tom imposes heavy restrictions on adolescence and adulthood while leaving children free to express anger and aggressiveness, or even encouraging the latter directly attributed his amok to the feeling of being attacked by magic it

In the Balinese, where children are trained at an early age to withstand teasing and frustration, there is virtually no amok, (Palthe, personal communication). Similarly among the Singapore Malaysians, where today adult life is so free from restrictions and formalities, there has been none for a long time. Among the Javanese, where freedom in childhood is combined with great propriety and obedience to rigid custom in later life, the incidence was still quite high in the past twenty years. (Professor Palthe told me that the special sticks used for trapping amoks were still to be found at many crosspaths in Central Java in 1938, although according to Ellis they must have gone out of use in Malaya about the middle of the previous century.) And among the Atchinese, Buginese and Makassarese, where freedom and masculine aggressiveness in childhood is strongly overvalued and where adult relationships are very rigid (26, 8), the incidence was very high. The importance of the restrictive nature of the local society in the genesis of amok attacks is also suggested by the experience in mental hospitals. In the old, prisonlike, hospitals before 1918 amok was a common occurrence, whereas when the newer, better staffed, hospitals were built, with a freer, more helpful attitude, amok just disappeared within them. (59,42). Another possible factor is the belief in the possibility of magical aggression. Both van Loon and Palthe describe cases as having the appearance of panic and as reporting having seen just before the attack the illusion of a tiger. In Malaysian mythology, illness is often thought to be caused by a tiger-spirit, "Hantu Belian," and were-tigers are believed to be temporarily metamorphosed magicians (33, 70) (18). Fitzgerald also describes cases having seen devils before the attack. So although I know of no case where the patient directly attributed his amok to the feeling of being attacked by magic it

is possible that such a feeling, with the impotence that it brings since one does not know who is doing the attacking, may lead to this panic-like outburst.

Regarding the sudden outburst without apparent earlier internal conflict, the matter is more complicated, for we are back at the problem of the Malay psyche, the problem of the acute non-recurrent confusional psychosis, the problem of latah. What can be said here is that amok cases are frequently reported to have shown in the days before the outbreak a form of behaviour which might be called dissociative. This is not the same as the regressive withdrawal recorded among Indian soldiers, although regression may play a part. The person simply goes about his business in a more automatic way, may sit rocking himself when at rest, and frequently recites surahs from the Koran over long periods. It is repetitiveness which seems to characterise this behaviour, and a narrowing of awareness of outside events, both phenomena often associated with the induction of trance or hypnotic states. We know very little about this aspect of psychology, but what we do know indicates that in such states there is a diminution or paralysis of the power of the ego to resist suggestions from without or impulses from within. This may be an operative factor in amok, as it almost certainly is in latah, and grounds for suggesting a basal connection between the two conditions rests not only on theory but on the existence among the Burmese of a condition which is an almost perfect bridge between the two. The condition of Yaung da té, as described by Still, starts off by being a startle reaction very similar to latah, even with the obscenity and repetitiveness which characterise many latah episodes; but a certain number of cases become not only startled but violent and Still tells of two homicides and a further case of homicidal attack very similar to amok occurring in such cases (71). Why there

should be this bridge between the two conditions only among the Burmese - some joke or misplaced treatment been given a strong order under hypnosis for I have met it nowhere else - the evidence is too slight to suggest, but to react to certain post-hypnotic suggestions. No one has ever suggested that some connection does exist seems clear. We may therefore now turn to latah and see what further light it throws.

There are two main types of latah, found alone, independently in the same person, and in various types of combination. The one is a startle reaction in which a trigger stimulus results in the suspension of normal activity and the unrestrainable outburst, for a limited period, of appropriate or inappropriate motor or verbal activity. The other is a mimetic reaction, the subject being thrown by a more or less specific stimulus into a suggestive state in which any action seen or words heard must be imitated. In both types the similarity to the state of hypnosis or more correctly to that in post-hypnotic suggestion is obvious. For instance, awareness is not usually lost, and motor control may be partially lost only, as when a case, disrobing in response to a mimed suggestion, may be verbally protesting at having to suffer the indignity. Again, there appears to be no disturbance of personality outside of these special periods, intelligent people are more likely to be subjects than mentally defective, and on the other hand there may be difficulty in getting a case out of the state if they are of a neurotic or hysteric type; all equally true of hypnosis. The only time that we can call latah truly a disease is when, in a weak personality, trigger stimuli become more diffused, the person spends more time in latah than out of it, and ego control is not resumed easily at the end of a period, this state being a well-known danger in hypnosis also.

It would therefore appear easy to explain latah - or at least, the mimetic variety - if only we could record that the cases had as a result of

applies to the Sundanese in Java but would be equally applicable to the some joke or misplaced treatment been given a strong order under hypnosis to react to certain post-hypnotic suggestions. No one has ever suggested that this is the case, but in puzzling over the reason for the condition it may be that previous writers have overlooked an important clue in what we know of Malaysian children's games. It is well known, I think, that throughout Malaysia, as in Mongolia and other places where a form of latah is found, shamanism and the use of spirit mediums is also present. Today, apart from the notable case of the Balinese, the distribution of such practices is thin, but there is evidence that this was the original type of religion of the Malaysians, and that practices associated with the induction of trance states were widely used. Mohammedanism has largely stamped such practices out, but if one reads reports of children's games, especially from the previous century, it is clear that in many areas what had previously been a serious religious procedure was being continued, as in Europe, in the form of a game whose meaning is lost. One such game is that of Nini Towong in which, on a certain day, a puppet is made and carried to a special place by an old woman and a group of girls. After numerous ceremonies the puppet is made to dance in a way which feels to those holding it to be quite outside their control - as the planchette or table in a Western spiritualistic seance does - and the puppet is considered to be possessed by a local spirit, though no particular meaning is attached to the summoning of it. In that case, the connection between game and religious practice is very obvious, which is why I quoted it, but for our study of latah it is more relevant to consider cases where the children themselves are made to be possessed. Here is one description which

applies to the Sundanese in Java but would be equally applicable to the Atchinese in Sumatra and to Malaya.

"The boy who submits to be the subject of the game is placed under a cloth. He is sometimes made dizzy with incense and shaken to and fro by his companions, tapped on the head and subjected to various other stupefying manipulations. Meantime they chant incessantly round him in chorus a sort of rhyming incantation the meaning of which it is impossible fully to comprehend, but in which the animal to be typified is mentioned by name and attention drawn to some of its characteristics. After a while, if the charm succeeds, the boy jumps up, climbs coconut and other trees with the activities and gestures of an ape, and devours hard unripe fruits with greediness. (25)"

In this type of game other animals may be suggested. Observers report that it is easy to distinguish when the boy is properly possessed and when he is only pretending to be so; that he may be supplied with two older boys as guardians to prevent him from doing things which would be appropriate to the suggested animal but dangerously beyond his own powers; and that he usually has to be awakened by calling his own name or by other devices familiar to hypnotists. When one boy is finished another may then take his place.

For girls, a different type of game is found, more reminiscent of Balinese spirit dancing, but equally without any residual serious meaning.

"Palm blossoms are laid on the ground and 'vivified' by incense and incantations. An impressionable girl is then stretched on the ground and covered with a cloth while a second girl beats a tabor and sings . . . The girl shrouded on the ground is believed to be slowly losing consciousness and to become possessed or revived with the spirit of the dance (?spirit of the plam). Rising as in a trance she picks up one of the palm blossoms, holds it at arm's length, and treads a measure with it, causing its stalk to sway in unison with her own movements and repeating in her turn the verses she has just been hearing. After a time, when recalled to consciousness by the cessation of the music, she returns to her place, leaving the dance to be taken up by another performer. (64)"

In Burma, possession dances are also played as games, or were when Still wrote (71). As such games tended to be disapproved of by parents they are

(28)

quite rare today, but Koentjaraningrat records the Nini Towong game being played by the present generation of urban Javanese middle class girls, and McHugh in 1955 reported seeing a youth in Malaya being induced to become (33) possessed with a monkey spirit. So they are not yet unknown. Also, the amusements of Malay children at an earlier age, while apparently much more innocent, have in the past had a certain hypnotic conditioning character also. In Perak, paper streamers and windmills were used to keep the infant dis- of age, is slightly affected by latak. Whenever I have occasion to ad- tracted with their bright monotony, while the earliest group game Wilkinson (64) reports from there consisted of tickling to see who could stand it longest.

We thus see that Malaysian children until recently have tended to be sub- jected to hypnotic or suggestive types of procedure, procedures which presum- ably conditioned them to be receptive to suggestion later, as we know hypno- sis can do in susceptible subjects even without specific intent.

The weaknesses of this argument are, first, that I know of no latak such game. (14) (9) case in which participation in such games is definitely recorded; secondly, that there is no direct connection between the type of suggestion made in these games and the type of suggestion that seems to operate in latak; and thirdly, that there is no common phenomenon in hypnotic practice correspond- ing to the startle type of latak. I do not feel, however, that these weaknesses are decisive. It is not my hypothesis here that latak stems from specific conditioning in childhood; but merely that such early experience would intro- duce the individual to a method of permitting or suffering direct contact between environment, deeper personality, and motor effectors, without going (67) through the filtering and modifying screen of the conscious ego. Reference to the startle reaction reminds us that we all suffer brief moments of such short-circuiting, moments which may permit mass-reflexes to operate more rapidly for our greater safety, but which also permit the emission of an

oath, etc., which is neither a reflex defense nor a conscious action.* Presumably - although I know no hypnosis experiment to prove it - prior experience in the suspension of conscious controls may lead to such short-circuiting happening more frequently or with wider effect. Ellis had a case which illustrates very well this connection between a normal startle reaction and latah. ⁽¹⁴⁾ disturbed, that it occurred mainly in men, that obscenity was not a

"One of my best female attendants, a half-bred Malay and Tamil, 48 years of age, is slightly affected by latah. Whenever I have occasion to admonish her she starts trembling for a few seconds, micturates and passes flatus, and then as if startled at the sound she loudly utters a filthy word, and promptly apologises for her conduct." (14)

Ellis also helps to resolve the first of the above objections, for although he does not mention the games he notes that a proportion of cases start at the age of 12, the condition having been discovered by children in one of their schoolmates - we may think that the discovery was made through such games - and developed through them teasing him into demonstrating it repeatedly. ⁽¹⁴⁾ Similarly, Clifford ⁽⁹⁾, some decades earlier, discovered that a number of his household servants had had the liability to become latah from an earlier age, but had neither shown nor been bothered by it until a marked case of latah came among them and revived, by example, the predisposition. Hence it seems possible that in the 19th Century a liability to latah did have some fairly close connection with childhood, and that many people may have had a predisposition to it. By 1949, however, the only connection which Yap can report is that one of his cases - the only male - played at being latah when a child ⁽⁶⁷⁾ hypothesis is offered.

Van Leen circularised 106 Netherlands Indies doctors* regarding

*See Yap for a fuller discussion of the relation between startle neuroses and latah. Twenty per cent of them had never seen a case and the remainder

*Different figures are given in his two papers. I am using what appear to be the more precise. Presumably more reports had arrived in the interval between publications, but were not analysed as completely.

But between predisposition and actual disorder there is still a step to take, and in this connection it appears that latah, like amok, has changed its character with the passage of time. In the 19th Century Clifford and other writers give the impression that the condition was well known to their Malay companions, that there were many mild cases and only a few seriously disturbed, that it occurred mainly in men, that obscenity was not a common feature, and that it could be found in all classes of society. By the 1930's, however, the condition has become apparently rarer, affects almost solely women of middle age and of certain occupations, and has a strong obscene or sexual element (46,45,59,58).

But the cases reported at that time could still be called normal in the periods between the attacks, whereas when we come to Yap's cases in 1949 it is clear that the majority, although never in mental hospital, cannot any longer be called normal (67). The border-line between true latah and other states of confused or disturbed behaviour has become blurred and some of his cases appear as much like instances of senile confusion as of true latah. As with amok, therefore, one gets the impression that what had once been a relatively common condition predisposed to by social attitudes or practices and not indicating much internal disturbance, becomes something in which the social predisposing factor has almost disappeared and internal causes or motives for its appearance become increasingly necessary. In Yap's cases the genesis and background is not clear, except that mental deficiency may play a part. In van Loon's cases, however, a much clearer picture and hypothesis is offered.

Van Loon circularised 106 Netherlands Indies doctors* regarding (59,58) latah. Twenty per cent of them had never seen a case and the remainder

*Different figures are given in his two papers. I am using what appear to be the more precise. Presumably more reports had arrived in the interval between publications, but were not analysed as completely.

the master of the house, and that in ten of his cases the condition is said reported only an average of two each. Of the 163 cases reported 157 were female, 150 were aged 35 or over, and 108 were domestic servants. In comparing these figures with 19th Century impressions there is a possibility of distortion, of course, since in some parts of Malaya at the earlier times women did not show themselves to visitors, whereas bizarre obscene behaviour is much more likely to be brought by Europeans to a doctor if it occurs in their female servants than if it occurs in some other class. But cases were not reported in this later study for male servants, and only very few for younger women, so that I think we must take the difference as genuine. Hence one must presume a special shift in the social distribution of predisposed persons, or special precipitating circumstances. The shift could be due to the disappearance of these suggestion types of game among boys while they continued to be played by girls of certain classes (Koentjaningrat mentions the survival of the Nini Towong game among girls, but none of the boys' games), or it could be due to education, although Galloway has argued against the latter, saying that in his day latak was disappearing in both sexes in Malaya, although girls were never educated (28). Or again, one can suggest that the necessity for continuous, automatic, unreasoned obedience by Malaysian servants in European households might present a special condition for its appearance. None of these hypothetical factors, however, would account for the age distribution of the cases, or for the apparent increase in obscenity, and van Loon prefers to suggest that the act of latak in these cases was a psychic surrender symbolic of the wished-for sexual surrender in middle-aged, sexually frustrated women. To support this hypothesis he notes that in the attacks obscene wishes were sometimes expressed concerning latent type of mental process.

the master of the house, and that in ten of his cases the condition is said to have started subsequent to a frightening and frankly sexual dream, such as of being attacked by wriggling penises or by naked men. He does not record how often such attacks took place in the presence of the mistress of the house (rather than the master), or whether these women were really sexually frustrated (an unusual thing in Malays) and he does not attempt to apply his theory of symbolic surrender to the different varieties of latah present also in Malaysian mythology, as far as sex is concerned. I do not know of any important phallic or womb symbol in their mythology (these are found on the island of Borneo, but as a vestige of quite a different culture). But it does seem plausible to suggest that in these female cases the latah was either called forth or seized upon by repressed feelings, usually of a sexual but perhaps of an aggressive nature, and the latent tendency exploited.

This last mechanism suggests a neurosis, but it is to be noted that in between these episodes there was no sign of mental imbalance, no hysteria, emotionalism, etc., in these cases. Both van Loon and Palthe emphasize this point. The outbursts of obscenity in these respectable and presumably efficient servants during a latah attack are thus much more equivalent to the obscenity one meets in spinsters being anaesthetised for operation, or the blasphemies one gets from religious men under the same circumstances. Such semi-anaesthetised cases are able to control their feelings under normal circumstances and we do not call them neurotic; and this would appear to be the case with the latah cases of that period also. It is possible that the latah was being exploited by such repressed feelings, and if this were definite it would be correct to call the condition a psychogenic disorder just as neurosis is, but the mechanism is so different that the application of the term neurosis to it would be wrong, I feel. One is dealing with a different type of mental process.

This point is roughly true not only of latak but of other minor mental disturbances among the uneducated Malaysian. The dreams which van Loon's ten latak patients report as initiating their condition are remarkable for the frankness of the sexual imagery and relative absence of symbolism and displacement. They are dreams which one would expect to be produced only after considerable working through of resistances, or in seriously disturbed cases. Such frankness and absence of disguise, however, is present also in Malaysian mythology, as far as sex is concerned. I do not know of any important phallic or womb symbol in their mythology (these are found on the island of Nias, but as a vestige of quite a different culture) but on the other hand they have a jungle spirit who knocks people down with his long trailing genitals, his female counterpart knocking them down with her long pendulous breasts, hiding lost children behind these breasts, or suffocating them with her enormous nipples (33). Other jungle spirits are supposed to be frightened away by showing one's genitals to them, and I had a patient who remembered being chased round the house as a small boy by his father brandishing a dried dog's penis, presumably with the idea that the devil of malaria would be scared out of him by this castration threat. Childhood sexual fears and sexual aggressiveness are obviously very close to the surface in such imagery, and there is a lack of the devious allusions and indirect processes by which Western peoples hide these bogies. It is therefore perhaps not surprising to be told by two separate psychiatrists that conversion hysterias and other true neuroses are curiously rare among the common people (36,40,55). Even among the middle classes where neuroses, although little recorded by psychiatrists, are common there is a marked simplicity in the structure of their disorders. Before I had ever started to survey

this field of Malaysian psychopathology I had written regarding my Malay student patients that their cases showed little of the usual psychopathology, with deeper exploration being of little value and cases usually recovering quickly and easily (35).

The one neurosis which, although rarely reported, does have a special association to Malaysia demonstrates this same relative lack of complexity and same directness of approach to sexual fears. Koro consists of a fear that the sexual organs will shrink into the body and that death will ensue from this catastrophe. Special instruments are traditionally used for preventing it (indicating that the condition cannot be as rare as it appears from the literature), the whole family share in the belief and help hold the penis from slipping in, and the condition - like so many disorders among these people - is usually over in some days, though it may recur. Palthe found the condition mainly in the Buginese and Macassarese, groups with an intense and distorted overvaluation of masculine aggressiveness, only in the upper classes and only in males, but Chabot reports it also in females, (46,45,8,7) the nipples and labia being then affected (30). The male variety apparently also occurs among the Southern Chinese, a fact not so surprising (61) when we consider their attitude toward female sexuality (66), but again almost nothing has been recorded on it. None of the writers who discuss the condition appear to have tried to analyse the deeper mechanisms of the condition, but the usually rapid recovery (Chabot mentions someone dying from it, but gives no details) suggests that it cannot be complex. (2)

Other mental disturbances relating to sex are probably not infrequent, although little recorded by psychiatrists. The lack of disguise of children's sexual fears and adults' sexual threats in the culture does not *and thus offer a certain similarity to adolescent homosexual panic as found in Western cultures; but I have not been able to pursue this relation further, since the literature on the latter is very slight.

mean that these fears cannot be traumatic. On the contrary, the freedom with which the young child can share its mother's bed and the freedom with which affection and fondling are exhibited between parents and small children of both sexes must make the oedipus situation much more marked than in a culture where parent-child contact is more formally limited. And there are clues to the existence of such disturbances, although the culture appears to have provided special outlets in some cases. Three of Amir's Sumatran amoks were suffering from castration fears,* and Oesterreicher has recorded an obsessional neurosis with the same basis. (4,38,37) Among the Bataks who

are Christian, and who therefore must obey much stricter sexual morals, neurosis is quite high (Palthe, personal communication) and some of this is on a sexual basis. On the other hand, we find transvestite homosexuality being socially recognised among the Sundanese, Buginese and Makassarese, these ~~peoples~~ being peoples in whom sexual roles are strongly differentiated, while another form of transvestitism is associated in certain pagan groups with an apparent confusion of sex identity. (Among these the sex of the attendant to an image or sacred grove is regarded as being determined by the sex of the resident spirit (30) .) There are therefore outlets provided in these groups

for people with problems of sexual identity, and it is interesting that although Korohas its residence among two of these peoples there were no cases accused of offenses against morals from among them in the psychopathic institute. On the other hand, psychopaths offending against morals were ap-

parently frequent among the Minangkebau and the Minehasser, who are the two most highly educated peoples in Indonesia, the latter being mainly Christian , disorders make, and to say something of the mental structure which they appear to disclose. The first point found was that psychosis rates are unusu-

*And thus offer a certain similarity to adolescent homosexual panic as found in Western cultures; but I have not been able to pursue this relation further, since the literature on the latter is very slight.

father is quite under-valued.

We are now at the edge of our subject, but before finishing mention must be made of one major condition, manic-depressive psychosis. This diagnosis is recorded not infrequently among the Singapore material, but ever since Kraepelin psychiatrists have agreed that the condition is very rare in Malaysians in its true form ^(16,46). So rare that Oesterreicher as late as 1950 has thought it worth while to publish details of a case in which alternations of the two phases were quite definite and classical ⁽³⁹⁾. The common affective psychosis is mania, and when depression does occur, it appears to approach the type we found in Indians, with an element of schizophrenic stupor, often exogenous, and rarely periodic. We noted earlier that some form of affective psychosis was relatively common in Singapore Malay youth, and that a short reactive depression entitled "Sakit Hati" was known to Ellis, possibly substituting for amok; but more chronic or recurrent cases of an affective type are rarer than in the other ethnic groups, and occur mainly in urban dwellers. (Although the affective psychoses are proportionately more common among the rural-dwelling Malaysians of Singapore than among the urban - 30 per cent to 24 per cent - only one of the rural cases required more than six months hospitalisation, or relapsed.) This is in agreement with what one would expect, both from the picture of the rich emotional life of the Singapore Malaysians, and from what has been said of their psychopathology generally.

It is now possible to summarise the picture which these various disorders make, and to say something of the mental structure which they appear to disclose. The first point found was that psychosis rates are unusually related to environmental pressures, being apparently very low when the

environment is making few demands and is nurturant but rising quite high when for in their concepts of possession, manliness and of disease there lies the economic conditions become difficult, or when the malaria season comes on, or when a colonial government imposes by force a changed rule of life. Traditionally these cultures permitted considerable freedom in the direct expression of frustration, of aggression, or of personal (mediumship) or sexual deviation; and under that tradition the common type of mental disorder was an acute outburst of confusion or of panic usually of short duration and leaving little or no signs of residual damage. Hence one might deduce that - to use Lewinian terminology - the boundaries between psychological environment and personality, and between the psychological and the non-psychological environment, were thin and permeable, easily penetrated but quickly reforming. In this conclusion one is supported by the observation that Malay thinking differentiates only slightly between the physical and the spiritual, between a mind within its body and a mind projected out as a were-tiger or in telekinesis. (33) Next, we found that in latah and in amok there could be a temporary suspension of ego control with direct communication between the deeper personality (id?) and the environment. So we may extend our analogy by saying that the boundary between peripheral personality and deeper personality must also be unusually thin, permeable and easily punctured, but equally easily reformed. This suggests considerable fluidity on the part of the ego and hence a relative lack of internal structure, certainly lack of rigidity in internal handling of frustration (except by avoidance), is a main factor in the relative lack of rigid structuring within the Malaysian psyche. Hence it is in types of disorder which are associated with rigid compartmentalisation of the personality, the more serious neuroses and certain types of functional psychosis. Support for this interpretation is again found in Malaysian thinking,

for in their concepts of possession, mediumship and of disease there lies the assumption that the deeper personality, with powers of its own, can reach out (31) and be reached without the intervention of consciousness .

These findings, and this picture of the Malaysian psyche, probably refer to most situations throughout the region where the cultural tradition was to be found relatively unchanged, and give an answer to the question expressed earlier as to whether there could be said to be any common mentality or common psychopathology in this spread of peoples. Naturally, where an attempt at admixture with a foreign culture is found the picture changes, with more neurosis, more schizophrenia, the disappearance of latah and amok, and the relative disappearance of the acute confusional states. In some such situations the Malaysian rates, we found, were not merely as high as the entered culture but much higher, and one can say that this may partly have been because a greater rigidity of personality structure was introduced in school and adult life without the equivalent modification of training patterns in early life.

Another question asked in this chapter was whether the very permissive, affectionate type of child-rearing found among the Singapore Malays led to greater mental health, and again we find that we possess an answer. It seems probable that this type of upbringing, with so little training in the handling of frustration (except by avoidance), is a main factor in the relative lack of rigid structuring within the Malaysian psyche. Hence it is an upbringing which sows few seeds of disorder, but which equally provides few defenses against environmental impacts in later life. It is an upbringing

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which possibly increases the amount of oedipus situation difficulties through the child being all the more clearly in competition with the adult for all types of affection, but that apparently is not of great importance provided there is abundant affection available and society and ego structure permit a relatively direct and uncomplicated expression of the resultant strains. The development of good mental health from such an upbringing, however, necessitates a suitable adult environment permitting considerable freedom. Where a combination of such upbringing with rigid social structure is found, as with the Makassarese, or with rigid internal moral structure, as with the Christian Bataks, or with ideals of competitiveness, as in the Ilocanos, then there is evidence of considerable ill-health even if statistics are not available to show it. These are the conclusions which I think we can draw from this chapter.

ins approximately the same, for there are the same posts to be filled, etc., but we cannot be so sure that the same ratio of sexes, ages, occupations and nationalities hold throughout. Moreover, the movement means that patients with certain conditions, I do not say mental ones, tend to delay hospitalisation until they are back in Europe, or advance their next trip to that end, while those falling sick in their homeland probably delay return until they are treated. For this reason a serious possibility exists that the incidence of hospitalisation in the tropics is artificially low. It has also been mentioned that an undue number of sailors appear in Singapore mental hospital, while soldiers' wives are under-represented since they obtain treatment from the Military Hospital. All this makes it very problematic how far our data can be taken to reflect conditions of incidence and not merely abnormal patterns of hospital use.

Despite this EUROPEANS AND EURASIANS trying to make use of them.

First, we see from Table 32 that the Eurasian rates are markedly different

The data with which this chapter must deal are not satisfactory. In the first place, the number of cases is too small and an unusual proportion leave hospital before adequate diagnosis or recording has been effected. That is true both for Singapore and for the few other localities from which we have information, and applies both to Europeans and to Eurasians. For the Europeans, however, a number of further problems are created by their continual and massive migration. Each year there arrive and depart from Singapore two to three times as many Europeans as there are in the residential population, some of these being visitors and tourists, but many being quondam residents either going on a long vacation to Europe or beginning or ending some short-term appointment. Through all this flux the form of the resident group remains approximately the same, for there are the same posts to be filled, etc., but we cannot be so sure that the same ratio of

sexes, ages, occupations and nationalities hold throughout. Moreover, the movement means that patients with certain conditions, I do not say mental ones, tend to delay hospitalisation until they are back in Europe, or advance their next trip to that end, while those falling sick in their homeland probably delay return until they are treated. For this reason a serious possibility exists that the incidence of hospitalisation in the tropics is artificially low. It has also been mentioned that an undue number of sailors appear in Singapore mental hospital, while soldiers' wives are under-represented since they obtain treatment from the Military Hospital. All

this makes it very problematic how far our data can be taken to reflect conditions of incidence and not merely abnormal patterns of hospital use.

Despite this, there are reasons for trying to make use of them. First, we see from Table 32 that the Eurasian rates are markedly different from those commonly found in Europe, while the Singapore European rates also show some peculiarities in the opposite direction to what we would expect from the above considerations on hospital use, even after exclusion of the sailor cases. Especially notable are the high rates below what we might call the age of retirement and the low rates afterwards, the latter being meaningful despite the small populations involved. Secondly, there is a mass of confused and often prejudiced literature on the supposedly higher incidence of mental disturbance among Europeans and part-Europeans in the tropics, and an effort to regain some order in the subject seems called for. The Singapore data, up to a point, go along with this expectation of higher rates, so that we can usefully approach both matters at the same time.

Age Group	Estimated Population ('000s)		First Admission Rates per 10,000 per Annum					
			P S Y C H O S E S			O T H E R A D M I S S I O N S		
			Singapore		England & Wales	Singapore		England & Wales
	Europ.	Euras.	Europ.	Euras.	& Wales	Europ.	Euras.	& Wales
				M	A	L	E	S
15-	0.5	1.1	4.0	7.3	4.7	17.2	7.3	4.1
25-	1.8	0.9	6.7	6.7	6.5	3.9	6.7	5.2
35-	2.0	0.6	6.0	13.3	5.0	4.6	6.7	4.1
45-	1.1	0.4	12.7	22.5	5.4	4.7	5.0	3.7
55+	0.5	0.3	(4.0)	-	13.0(?)	(4.0)	-	1.2
			F	E	M	A	L	E
15-	0.5	1.1	13.3	7.3	3.3	6.1	1.8	3.6
25-	1.7	0.9	10.5	15.5	6.1	9.9	2.2	4.7
35-	1.3	0.7	6.8	11.4	7.8	4.4	-	4.1
45-	0.5	0.4	13.3	30.0	10.4	1.2	-	3.0
55+	0.3	0.4	-	(10.0)	15.0(?)	(8.0)	-	1.2

TABLE 32. Estimated European and Eurasian Populations and Rates of First Admission to Mental Hospital for Singapore, 1950-1954, excluding European Seamen admissions; with comparable rates estimated for England and Wales, 1949. (Estimates of Singapore populations were arrived at from 1947 Census, 1952 official estimate of total population, migration and birth rate data. Estimates of the E. & W. First admission Rates were obtained by taking 65% of Psychotic and 75% of Non-Psychotic Total Direct Admissions (32) for the year.)

There are three broad groups of factors which are customarily cited in discussing the incidence of European and part-European mental disorder in the tropics. They are: factors of origin and selection; factors in the physical environment; and socio-cultural factors. The declared approach of this study makes us most interested in the last category, but the others have to be considered, since they are the more commonly referred to and may be quite potent.

The fact that Europeans and part-Europeans in the tropics are a population of selected or abnormal origin is easy to visualise. Selection and hence distortion exists to some extent in all migration or occupational recruitment but where we are concerned with the least chosen or most unusual of a wide variety of occupational and migrational possibilities, as is the case with tropical employment of Europeans, then we must particularly expect deviations from the average picture in the parent population. And unless we believe that such selection rested solely in the question of opportunity, we must assume that the distribution of needs and goals in the migrants was in some way different from the average in their cultures, and in consequence that some difference in basic personality was probably also involved. The same is even more true of the progenitors of the present-day Eurasians, since of those Europeans who did come to the tropics only a small minority elected to marry outside their own stem culture. But to say that these people are probably different in some way from the average in their parent populations is not the same as saying in what way they are different, and it is here that we reach dubious ground. Writers who stress this aspect of tropical mental health (16,22) tend to assume either that any deviation from the average must in itself be unhealthy, or that the particular

processes at work in tropical recruitment result in the less healthy being selected. Of these hypotheses the latter is the more plausible, especially if one considers the recruitment for a body like the French Foreign Legion with whose members and ex-members many French tropical physicians are acquainted. But it would be difficult to justify the same assumption in other cases - the British Indian Civil Service for instance - and I think we must demand that it be argued case by case rather than accepted as a general rule. The other hypothesis, namely that deviation is unhealthy in itself, is hardly acceptable in its pure sense to modern thought, but it conceals two secondary interpretations which require our serious consideration. On the one hand, it can be argued from the nature of social groups that deviants always experience adverse social pressures, and hence must suffer more strain than average members of a community, irrespective of the direction of their deviation. So while deviation may not be unhealthy per se it draws upon itself unhealthy pressures, and the result, one might argue, is the same. We will have to consider this argument later when we consider the tropical social milieu and its relationship to the home society. The other way in which the hypothesis might make sense is in relation to the inadequacy of the usual approach to the question, or to the crudity of our instruments. If tropical recruitment is visualised as reducing the proportion of men of average mental health and increasing the proportion of those with better than normal and worse than normal health, our medical approach will tend to record some increase in the poorer than normal while missing the better than normal entirely, and the resultant appearance will be as though the mean health of the population is poorer, whereas in fact the mean has not shifted at all. If we do find an increase in mental ill health in which selection

appears to be a factor, therefore, this contingency will have to be allowed for and, if possible, explored. Eurasians, a further set of related hypotheses

can be But first the evidence must be produced, and this the proponents of such theories have not done. They have not even, to my knowledge, suggested any way of testing their case against other hypotheses which have been put forward. Yet such testing would not seem to be difficult. If it is selection and not environment which principally causes an increase in European mental disorder in the tropics, then it seems to follow:

- a) that the increase should substantially remain despite any change in environment; and things off the ground (4) make sense, because and
- b) that as between a more self-selected and a more arbitrarily selected group of whites in the same tropical environment the more self-selected should show the higher rate of mental disturbance.

On the second corollary, we have seen some confuting evidence already. As between husbands and wives it seems highly probable that a decision to obtain employment in the tropics would be determined more by the husband than by the wife. In other words, it is the husband who is likely to have the desire to go to the tropics, whereas the wife's desire is more likely simply to stay with her husband. Hence on corollary (b) above, the husbands should be the more self-selected and have the greater mental ill health, whereas in Table 32 we have seen that it is the European females (almost entirely married) who have the higher rates. A single example like this is questionable, especially since, with regard to suicide, it is the wives who have the lower rate, but we will be able to make other such comparisons and for the moment may only note that such data as we have so far seen do not appear to confirm the selection hypothesis.

pure Hawaiians or the Caucasians, etc., whereas the Eurasians in Singapore have higher rates than the Europeans and Malaysians, respectively, and it is probably being unimportant in both cases. But it is not difficult to disprove the hypothesis that genetic constitution may produce greater liability to mental disorder than single environmental factors. The Portuguese-Malay Eurasian, while not having such high rates as the mixed-bloods, have the question whether, should our data be taken into account, as they are, (10) healthiness of the result. Thus, Davenport argued that a short arm/body ratio in some Jamaican mulattoes was dysgenic because it must give them difficulty in picking things off the ground (!) while Boas, (3) Shapiro (35) and others have argued that the taller physique of American Indian/White mixtures and of the Pitcairn Islanders indicated superiority. Psychology (29) has added its bit to the confusion of such thinking through the publication of results in which other variables were inadequately controlled, and this is true of psychiatry also. Thus from Brazil "Le melange de races d'origines si diverses produit certains types somatiques et psychologiques peu harmonieux, et ce manque d'harmonie devient plus apparent quand des troubles psychiques se manifestent chez de tels individus. Leur psychisme, caractérisé par ce qu'il a d'atypique, est très différent des formes classiquement décrites par la psychiatrie européenne. L'ensemble ... nous fait dénommer ... dysmorpho- (38) psychie." But we are not shown that this atypical mentality is absent in the pure-blooded Indian, or that it is independent of culture. It is easy to refute either the hypothesis that mixed-blood groups always show higher rates of mental disorder than people of their parent stocks, or that they always show lower. For instance, we saw in a previous chapter (Table 14) that the part-Hawaiians have lower rates of mental hospitalisation than the

pure Hawaiians or the Causasians, etc., whereas the Eurasians in Singapore have higher rates than the Europeans and Malaysians, hospitalisation attitudes probably being unimportant in both cases. But it is much more difficult to disprove the hypothesis that genetic constitution may produce greater liability to mental disorder in a single combination, e.g. the Portuguese-Malay Eurasian, while not doing so in others. And once again we have the question whether, should our data point to such an effect, we are dealing with a shift of the average mental health to the poorer side, or ^a merely/greater deviation both to the poorer and to the superior extremes. With the Singapore Eurasians such questions are not wholly irrelevant, for their high rates are apparently not a temporary phenomenon such as might be explained by the present political disturbance they feel around themselves. From 1885 until the 1920's they kept a steady rate of six males per thousand in mental hospital, a rate which was not abnormal for Europe at that period but very high compared to all the other Singapore communities. Other hypotheses can, and will, be offered to account for this fact, but we cannot say that the genetic one is disproved.

The next group of factors commonly associated with European mental disturbance in the tropics are the physical or climatic. This is the favorite of British writers ^(8,25,5), and a quite remarkable variety of suggestions can be found. Moist heat has been blamed, but also dry heat; monotony of climate, but also too wide variations in atmospheric electricity; inability to maintain a European style diet, but also failure to change to local foods; the maintenance of European patterns of energy expenditure, but also failure to maintain such patterns; insolation from clear skies, but also the depressive effect of the monsoon overcast. Similarly varied

are the conditions to which these factors are supposed to give rise, some only on the borderline of our subject. The list includes mental irritability, neurasthenia, neuro-vegetative dysfunction, asthma, intolerance of minor temperature change, paroxymal polyuria, and all varieties of headache, but goes on to more serious matters such as suicide, paranoid ideation and - most rarely mentioned of all - psychosis. It is quite difficult to decide if all these complaints truly belong to a disease syndrome, and further, which of such syndromes belong within our chosen category of 'mentally mediated.' To insist, as we have largely managed to do so far, that we will accept as evidence mainly the hospitalised psychoses would be for the majority of writers on this subject to ignore the main problem, which is on the neurotic rather than the psychotic level. Fortunately there is some evidence on the neuroses and the psychosomatic group of disorders which permits us at least to limit the attention which we must pay to the climatic question.

The climatic or physical group of hypotheses have as their corollary that any increase in mental disturbance should persist as long as the physical environment is unchanged but should alter when the latter is changed.

From British writers in Malaya and Singapore (see for instance the spate of letters which answered the Bishop of Singapore's request to the British Medical Journal for advice on the problem, in 1926), and from the expert Dutch

writings of van Loon (23) in the 20's and Wulfften Palthe (28) in the 30's

we have sufficient cause to believe that the incidence of mental and psychosomatic complaints in the Europeans of the two territories was high between

the wars. With the arrival of the Japanese in 1940, a considerable number

of the same populations were put into concentration camps locally, to live

adults in a comment on the last paper that the fatigue which was so common a

under the same climatic and poorer physical environment but a considerably different social environment, often considered to be worse but not necessarily so from our angle. On the incidence of mental and psychosomatic disorder in these camps we have some evidence. From Singapore, we learn that among the civilians (who were the 'self-selected') the familiar neuroses (31) (4) virtually disappeared, while among the military the incidence of neurosis was quite low and that of psychosis was 3.4 per 10,000 per annum excluding the reactive depressions, or 4.6 including these depressions, the period of observation being 15 months and the population 50,000 (Table 33).

Group	Occurring During Imprisonment In					Transferred to hospital after release from all Japanese camps in Area. (19)		
	Changi Military Prisoner of War Camp, Singapore (4)				Sime Road Civilian Camp Singapore (31)			
	Australian	British	Total	R.	Europeans	R.	British	R.
Population	15,000	35,000	50,000		3,000		60,000	
Period covered	15 mos.	15 mos.	15 mos.		3½ yrs.		c. 3½ yrs.	
Psychosis	4	7	11	1.7	2	1.9		
Psychoses	4	6	10	1.6	4	3.8		
Al Psychoses	8	13	21	3.4	6	5.7	29	1.4
Reactive Depression	3	5	8	1.3	?			
Reactive Depression			11	1.7	"very few"		6	
Reactive Depression							14	
Al Minor React.			19	3.0			20	?
					2	1.9		

33. Incidence of Mental Disorder in European Prisoners in Japanese Camps in S.E. Asia, approximate rates per 10,000 per annum; from various sources.

For the Dutch, we have a report of their medical examination after repatriation, when it was recorded (18) that although about a third were complaining of fatigue and many of intestinal upset, less than 3% admitted having had 'nervous' symptoms during their stay in the camps and only about 6% felt such symptoms afterwards. Further, Wulften Palthe, who was himself a prisoner, (18) admits in a comment on the last paper that the fatigue which was so common a

complaint among the Java Europeans in peacetime was infrequent in the camps although the diet was so much poorer and the work harder. He hypothesises a condition of 'leiodystonia,' wherein a feeling of fatigue gets worse with rest but improves on exercise, to account for the observation; but whether or not this has any meaning for us the basic fact is that the fatigue and other possibly neurotic symptoms declined. All this change in incidence or prevalence was under conditions of unchanged climatic environment but markedly changed social conditions. (It was also, for the civilians, a change occurring in a self-selected group.) Possibly the lower incidence would not have persisted for much longer, but it did occur under conditions where a rise rather than a fall in incidence should have been expected if climate and physical disease had been a principal causal factor. We can only conclude, therefore, that climate was not a major factor in this change of evidence. As a minor factor, outweighed by a greater social one, climate is not ruled out by these data, of course, and it is my personal belief that it does play a slight role in the matter. I believe, without much objective basis for my belief, that it calls for certain somatic and mental adjustments which may be difficult for certain types of personality to accept, or which may even be regarded as a threat to these personalities.

Coming now to possible social factors, it seems desirable first to record what the special features of the European and Eurasian societies in a tropical location are. Naturally, differences exist from place to place, but what follows is broadly applicable, at least to South East Asia.

The first peculiarity of European and Eurasian positions is with regard to socio-economic class. In most tropical areas the European constitute either an exclusive upper class, or the major part of one, or an

upper class existing coincidentally and amicably with other upper classes derived from different sets of cultural values. There are usually virtually no Europeans performing lower class roles either by local standards or by their own, and those who do assume such roles tend to find themselves outcasts. The Eurasians do not share this position, even though individuals may be accepted; they perform different occupational roles and their average income is so much lower that they cannot maintain certain expected upper class standards. In the Dutch East Indies in the 1920's, for instance, the per capita income for full-blooded Europeans was twenty-five times that of the Malaysians whereas that of the Eurasians, even though called Dutch and legally treated as such, was only ten times (33). The European position had both advantages and disadvantages. Personal income was not only higher than that of most other residents, it was usually higher than the same individual could have earned in his homeland, especially after taxation. Houses were larger, servants more abundant, and leisure time more ample if one chose to accept it. Even the lowest grade of European was usually in a position to dominate other men or to look down on them if his neurosis demanded it, and there was frequently real power. On the other hand this power position usually demanded the exercise of responsibility and decision taking considerably in excess of what the individual had met with previously. Similarly, there was usually constraint to behave always in a way fitting the status, a way for which the home upbringing might have offered no preparation. In some localities such constraints covered only a limited sector of life, so that the socially deviant individual had considerable freedom provided he paid token service, but in others the pressure was much greater than would have been found in the homeland, coming not only from one's

of permanent settlement. Some may come with a view to a possible long-term peers but from one's subordinates. Non-conformity to certain conventions, career, some may marry and decide to settle permanently after a period of for instance, might mean that no servant would work for one. Such constraints testing, but the majority come out of curiosity, or to make a fortune, or were also economic, so that even the higher income might need careful budgeting to serve, but with a clear expectation of returning to their homeland at some not too-distant future. Another disadvantage lay in the presence of servants from a different culture, penetrating private fields for considerable breaks at regular intervals. Hence there is little of activity with new ideas and depriving one of customary physical and emotional outlets. Failure or rejection of such status usually resulted in extrusion from the European community, perhaps back to the homeland where the is an urban centre like Singapore than in a hinterland where more commitment mental consequences of such failure or rejection are veiled from us, but has been required, but there is a flux in both. Also, the expectation that occasionally into some other group through marriage - the Eurasian - or one will be returning to the earlier milieu is a deterrent to adjustment through religious conversion.

either to the physical (climatic) or the social environment, for such adjustment may seem difficult and its success may be seen as hindering rewarding. Average income, as we have seen, is considerably less than the settlement in the homeland later. These are all, obviously, factors affecting European, but still above that of the other communities. The range of social levels permissible before extrusion is quite great, but the virtually the group whole. I have mentioned the fact that regular return to the home-100% literacy usually ensures entrance into the white-collar and mechanical land may lead to hospitalisation being postponed until that return is occupations. Traditionally his Western-style education, local birth, and effected, but there are factors working in the opposite direction. We know theoretical position between two cultures (theoretical because he does not that any shift of domicile constitutes a mental strain, whether the individual necessarily understand more of the Asian culture of his forebearers than consciously agrees to adjust or not, and the incidence of mental disorder in does the European) placed the Eurasian as the European's supervisory assistant, carrying most of the responsibility for effecting action but rarely greater than when the migration is several years past. But in the tropics sharing in the decision-making level of the hierarchy. But only rarely (in one has, all the time, a European population most of whom have recently shifted Hong Kong, mainly) do we find him profiting from this special position to domicile or immigrated, while the proportion of those in steady residence for reach the highest economic strata as an independent operator. five or ten years is small. Further, if in a particular tropical location there

The next peculiar characteristic of the European community is the is the expectation of mental upset, as was true in the past of many places, then transient nature of its members. Few come to a tropical land with the idea persons in a minor stage of mental disorder may be forced into introspection

of permanent settlement. Some may come with a view to a possible long-term career, some may marry and decide to settle permanently after a period of testing, but the majority come out of curiosity, or to make a fortune, or to serve, but with a clear expectation of returning to their homeland at some not too-distant future. Moreover, a majority return to that homeland for considerable breaks at regular intervals. Hence there is little permanency in relations with one's neighbours, in group or personal planning, but also little personal investment or involvement. This flux is greater in an urban centre like Singapore than in a hinterland where more commitment has been required, but there is a flux in both. Also, the expectation that one will be returning to the earlier milieu is a deterrent to adjustment either to the physical (climatic) or the social environment, for such adjustment may seem difficult and its success may be seen as hindering re-settlement in the homeland later. These are all, obviously, factors affecting individual mental balance, but in the flux are also factors affecting the group whole. I have mentioned the fact that regular return to the homeland may lead to hospitalisation being postponed until that return is effected, but there are factors working in the opposite direction. We know that any shift of domicile constitutes a mental strain, whether the individual consciously agrees to adjust or not, and the incidence of mental disorder in people soon after migration has been shown in a number of studies to be greater than when the migration is several years past. But in the tropics one has, all the time, a European population most of whom have recently shifted domicile or immigrated, while the proportion of those in steady residence for five or ten years is small. Further, if in a particular tropical location there is the expectation of mental upset, as was true in the past of many places, then persons in a minor stage of mental disorder may be forced into introspection

by itself, does not have any large body with which to identify, and its members are usually such that it is forced by its own needs into continual adjustment to other cultures. The Europeans may have their own quarters and live in the tropics who if there had not been this mental atmosphere would have survived longer until they had returned home or not broken down at all. such adjustment, but the Eurasians cannot do this, cannot divorce themselves

With the Eurasians there is no such flux; it is a very stable group, the few new mixed marriages in each generation being much outweighed today by those with many generations ancestry. Instead, its peculiarity

Today there is a further strain on some Eurasian communities, those who while living in a country with mainly an Asian culture have identified themselves as far as permitted with the European minority. In such countries the activities they can identify. They are not, usually, a party of one of the democratic or revolutionary trend is for the Asian majority to take over the greater cultures, the European or the Chinese, for instance, self-distinguished in the way a Scotsman likes to be distinguished from an Englishman power and to supplant the Europeans from their controlling status. The displaced Europeans can return to their homeland but the Eurasians have no other homeland. If they accompany the Europeans, as is happening in Holland, they find themselves in strange conditions to which they adjust with difficulty. by those with whom they would identify or they have themselves rejected some aspect of a culture which is open to them, rejected the Mohammedanism of the Malays, for instance, or the cold climate of the Dutch homeland. Where a territory with many Eurasians has gained its independence, as in the tropical Latin states, the identification problem disappears, for they have their earlier the strain of change is great and they may be suspect as not truly country now, they are their country, but the minority feeling vis-a-vis the loyal. In Hawaii this is not a problem, since the dominant culture there is clearly the American one and the future is seen as further Americanization. is both permitted and accepted, as happens with many single individuals, In Hong Kong there is again no cultural problem though the political one is then they are no longer Eurasian for our purposes (one does not call Malayan great, since the Eurasians are not a truly separate group from the westernized Chinese. But in India there was a clear difficulty, now apparently solved, and in Indonesia and Malaya it still exists. mother). Where a Eurasian group is identifiable and recognizes itself as such, however, the predominant feature is that it is not a viable community

These special features are the basis for most of the common socio-cultural hypotheses which have been offered to explain the apparent frequency

by itself, does not have any large body with which to identify, and its numbers are usually such that it is forced by its own needs into continual adjustment to other cultures. The Europeans may have their own quarters and can choose isolation and dependency on their homeland memories rather than such adjustment, but the Eurasians cannot do this, cannot divorce themselves from the Europeans who may insult them, or from Asians who may mistrust them. Moreover, among themselves Eurasian groups may be quite fragmented.

Today there is a further strain on some Eurasian communities, those who while living in a country with mainly an Asian culture have identified as far as permitted with the European minority. In such countries the democratic or revolutionary trend is for the Asian majority to take over power and to supplant the Europeans from their controlling status. The displaced Europeans can return to their homeland but the Eurasians have no other homeland. If they accompany the Europeans, as is happening in Holland, they find themselves in strange conditions to which they adjust with difficulty; if they remain and try and maintain their European side they draw on themselves such hostility as the latter may have aroused in colonial times; while if they try and identify themselves with the Asians without having done so earlier the strain of change is great and they may be suspect as not truly loyal. In Hawaii this is not a problem, since the dominant culture there is clearly the American one and the future is seen as further Americanisation. In Hong Kong there is again no cultural problem though the political one is great, since the Eurasians are not a truly separate group from the westernised Chinese. But in India there was a clear difficulty, now apparently solved, and in Indonesia and Malaya it still exists.

These special features are the basis for most of the common socio-cultural hypotheses which have been offered to explain the apparent frequency

mental hospitalisation above the age of 55, which I have loosely called of mental disturbance in these two groups. For the Europeans, the points commonly made are that they are in a strange milieu and do not attempt to adapt to it, that their social status tempts them to live in a way unsuited either to their background or to their income, that the use of or the alleged live on their substantial pensions or profits, or to take these on with non-necessity for local servants deprives the housewife of emotional and activity outlets, and that the responsibilities carried by young administrators may be too heavy. For the Eurasians, the suggestions usually point to the insecurity of their position, their non-acceptance by major groups, and a possible clash of cultural goals. Such hypotheses do not mention the ad-

DIAGNOSIS	British* Males	Oth.Europ. Males	Europ. Seamen	British* Females	Oth.Europ. Females	Eurasian Males	Eurasian Females
Schizophrenia	2	3	12	8	1	4	11
Affective Ps.	7	2	11	5	1	10	10**
Organic Type	3	4	5	5	-	2	2
Major Mental Dis.	12	9	28	18	2	16	23
Minor " " " "	7	2	9	11	1	4	2
No Diagn. Given	6	1	1	2	1	6	-
TOTAL	25	12	38	31	4	26	25

TABLE 34. European and Eurasian First Admissions to Singapore Mental Hospital, 1950-54, by broad diagnostic categories and by certain social groups. (*British includes all English-speaking peoples of presumed European descent, e.g. Australians, this being the Census approach, but two American women are also included here whom the Census would have put under Other European. **Eurasian female affective cases include five involuntal, this diagnosis not appearing in any of the other social groups shown.)

but chance suggests making this allowance.) So we have only half the advantageous aspects of the two positions, the status gratifications of the European and the ease with which the Eurasian, if he is so minded, can slip into supervisory posts tailored to his attainments. But of course such points are equally of importance. Let us now inspect the Singapore data more closely and see what social differences or similarities we can find.

The reader will have remarked on the fact that there is as great a difference between the Singaporean and the European as there is between the Singaporean and the Eurasian. The former difference requires more investigation than it has so far received, but a book on S. E. Asia seems hardly the appropriate place to pursue the matter.

mental hospitalisation above the age of 55, which I have loosely called the age of retirement since retirement of all races in the tropics tends to be early. For the Europeans this is the age when most people who have sought a permanent career there used to return to their homeland, either to live on their substantial pensions or profits, or to eke these out with non-strenuous employment. Hence the numbers drop sharply above that age. However, my estimates suggest at least 800 remaining, plus another 700 Eurasians. These are minima since no allowance has been made for the probability that in 1947, so soon after the war, the proportion of elderly Singapore Europeans was likely to be unusually low, and no allowance has been made for the aging of the Eurasian group. But 1,500 persons over the age of 55 in Britain itself would on the average have produced twelve or thirteen psychiatric cases in a five-year period (32), and in New York would have produced about twenty cases, most of them organic type psychoses* (12). Whereas in Singapore this population produced six cases (2 involuntional melancholia, 1 epileptic psychosis, 1 opium addict, and 2 discharged early without diagnosis) plus perhaps one more from those for whom no age was recorded. (None of those with unrecorded age was given a diagnosis associated with later life - they were mainly neuroses - and their average age was probably low, but chance suggests making this allowance.) So we have only half the expected rate by British standards, and none of these cases is diagnosed arteriosclerotic or senile psychosis. Even if we exclude the over-seventy-fives in each population the difference is still very great. Hence we may take it that a real difference exists, with the Singapore Europeans tending to show

*The reader will have remarked on the fact that there is as great a difference between the New York and British rates as between the British and Singaporean. The former difference requires more investigation than it has so far received, but a book on S. E. Asia seems hardly the appropriate place to pursue the matter.

a characteristic which we have so far considered to belong only to the Asian groups. To be the chief precipitating factors for mental breakdown are absent.

We have two problems here, the problem of precipitating circumstances in old age, and the problem of predisposition to the organic psychoses. The relative absence of precipitating circumstances in old age is the easier to understand. These are both small populations in which old people are few and younger adults have the leisure and inclination to give them the attention they require. Being small, also, they tend to have good cohesion around communal institutions such as church and club, in whose activities the retired person can find as much involvement and work as he wishes. The weather is kind, cost of living is low if one chooses to have it so, and most old people have a servant. Contrast this with what we know to be the plight of the majority of old people in Britain and the U. S. A! Among the Europeans we may assume that virtually only those who have adjusted well to the local life and climate will remain after retirement, the majority returning to their homeland (perhaps to find themselves unadjusted there also and hence perhaps to experience excess mental disorder; we just do not know). The numbers of those who remain out of necessity - because they cannot afford the passage or the cost of living at home, or because they have no homeland to go to - are too few to affect our picture. There is thus a positive selection operating. With the Eurasians no such selection can operate, but on the other hand they have the additional advantage - which the European lacks - of strong family cohesion, with much sharing of burdens and a high value placed on the grandparent role. Further, there is frequently a strong tie between mother and daughter even in later life, something which may reflect Malay influence. In both these groups, then, old age is relatively free of precipitating factors, but the information is not sufficient to permit the calculation of incidence rates or the assessment of

from strain and is reasonably rewarded, so that what we customarily consider to be the chief precipitating factors for mental breakdown are absent.

The problem of the organic mental disorders in later life is much more complicated. It is frequently suggested that these disorders, along with arteriosclerosis, hypertension, coronary heart disease and cerebral haemorrhage, are predisposed to by the pressure of activity which is a characteristic of Western civilisation. Yet here we have the main representatives of that civilisation showing no organic mental disorder in old age at all (if we exclude the one epileptic case) whereas in Asian groups these diseases, though not as high as in the West, are substantially present. Certain hypotheses offer themselves. We may think that the predisposition cannot operate unless the requisite precipitating factor is also present. Or we may suggest that the privileged social status of both these groups act as a protection earlier (although in the West the social class gradient for this group of disorders is slight⁽¹⁷⁾). Or we may say, for Europeans, that premonitory signs of hypertension, etc. will lead to predisposed individuals repatriating earlier. Or, finally, we may think that some climatic factor may be operating in such a way as either to annul the predisposition or to make such cases break down earlier than old age. No useful answers to these points can be found, at time of writing, in studies from other tropical areas. De Langen⁽²¹⁾, Muller⁽²⁶⁾, and others have shown that signs of arteriosclerosis appear somewhat earlier in tropical Whites than in Chinese or Malaysians, but that the incidence of such post-mortem signs is not much different from in Europe. However, this does not refer specifically to cerebral arteriosclerosis, and says nothing whatever of psychosis. From India⁽²⁾ and Indonesia⁽²³⁾ reports show that senile psychoses can occur in this type of population, but the information is not sufficient to permit the calculation of incidence rates or the assessment of

background conditions. From other Singapore data, however, something can be said. First, a glance back to Table 34 shows us that whereas organic type psychosis in later life is absent, organic type disorder in middle life is by no means so, certainly not for the resident Europeans. Such organic type psychoses comprise almost a quarter of their total psychotic admissions, which is about the same proportion as in Britain although in the latter country the bulk of the cases are senile. Apparently we have some support here for the hypothesis that in the tropics (or at least in Singapore) the organic reaction group appear earlier. This fits, also, with the observation that it is particularly in the 45-54 decade that the male rates, both European and Eurasian, are specially high. However, there are difficulties in this argument. In the first place, the Eurasians show little organic type mental disorder whatever. In the second place, the majority of the European cases are acute psychoses as opposed to chronic. Six of the twelve male cases are labelled alcoholic psychosis, while three of the female cases were acute confusional states and the other two were short-lasting puerperal psychoses. Hence it could be questioned whether any predisposition to organic type disturbance can be deduced from this material at all, since on the one hand we are dealing mainly with levels of alcoholic consumption, while on the other we have a couple of borderline categories which might easily be given quite different labels in another country, labels in which no organic element is implied, such as 'acute schizophrenic episode.'

The latter objections do not seem acceptable. Elsewhere in this book it is shown, I think, that the acute and chronic organic type psychoses share certain correlates in such a way as to suggest a common basis. Moreover, where the acute confusions tend to be subsumed under simple schizophrenia one can sometimes derive similar correlations, correlations which

Further, they
are a small and

TABLE 35. Incidence of Cerebro-vascular Accidents and Hyper-
tension, 1943-1952, per 1,000 per annum, over age 55 only; by Ethnic Group
and Sex. The European male rates are probably slightly inflated
by some seasonal admissions.

do not apply to the other types of schizophrenia. Regarding the alcoholic cases, moreover, I believe a definite barrier exists between chronic alcoholism and the development of these manifestations which we call psychotic, and in the weakening of this barrier I think it plausible to suggest that predisposition to organic type mental disorder may play a part. Of course, it is possible that these cases were not psychotic at all, since we know that in some places alcoholism cannot be given mental hospital care except by labelling it psychotic even when it is not; but in Singapore there was not necessity for such subterfuge, and it is clear that the distinction between the two states was recognized, since among these same Europeans we have a further three admissions labelled alcoholic addiction (included in the Minor Disorders).

(31)

Some further support for this comes from Poynton's report on the Singapore civilian internees. He tells us that four of the six psychoses in the Sime Road camp were in elderly men, but two of these were acute confusional states, probably related to poor vitamin absorption, one had general paresis, and the fourth was a manic depressive. Hence even under conditions bearing heavily on the old we get the acute or toxic organic psychoses but not the arteriosclerotic or senile.

The other objection is weightier. The Eurasians partake of Western civilisation and their men bear much of the supervisory responsibility and activity in

Ethnic Group	Population over 55('00s)		Cerebro-vascular Accidents		Hypertensive Disorders	
	M	F	M	F	M	F
Chinese	26.7	34.2	0.84	0.20	1.51	0.36
Malaysian	2.8	3.0	0.50	0.27	0.86	0.14
Indian	2.1	0.5	2.39	1.20	7.43	-
European	0.4	0.2	3.00	3.00	4.50	3.00
Eurasian	0.3	0.4	8.00	0.50	8.00	7.00

TABLE 35. Incidence of Cerebro-vascular Accidents and Hypertensive Complaints Admitted to Singapore General Hospital, 1948-1952, per 1,000 per annum, over age 55 only; by Ethnic Group and Sex. The European male rates are probably slightly inflated by some seamen admissions.

Further, they are a small and

insecure minority in competition with larger communities, and among the Chinese such minority status can be shown (Chapter 6) to increase the risk of certain types of organic psychoses in males, or of functional psychoses in females. It is true that they are local-born, that they have privileged social status, and that they have the further probably protective social characteristic (see Chapter 10) of mutual supportiveness within family networks. But I would not have expected such protective factors to outweigh the adverse ones just noted, and so I did expect a raised incidence of organic type psychosis in Eurasian males. What answer can we suggest? Further examination of the data brings out two points. First, the rate of psychosis is quite high but the type of breakdown is more functional than organic. Second, the incidence of hypertension and cerebro-vascular disease, conditions which we normally expect to be associated with organic mental disorder and which some writers consider to be precursors of it, is also high, as Table 35, above, shows.* If these data were fully adequate - and we must recognise that they are too slight to bear much weight - then we would have to conclude that some other factor or factors are missing. Tentatively, I would suggest that these factors are the precipitating ones of brain toxins in middle life, for the Eurasian is exposed neither to the alcoholic concentrations of the European nor to the infections and malnutrition of the lower class Asian. Another possibility, however, is that the nature of the social strain on the Eurasian male is somewhat different, being less of a direct struggle for survival or for competitive mastery - which is

of the whole European male group or one-fifth of the female (they did not
*I do not suggest that the figures in Table 3 reflect true incidence, although a genuinely low rate among Malaysians and Chinese is suggested by mortality data (30) and by De Langen's clinical studies. (21) But the Eurasian hospitalisation rates are quite high per se, probably as high as in Western cities.

how one might class the experience of the Chinese minority member at one end of the scale and the European business man at the other - than for an intangible sense of security. The Eurasian was not, at this moment, economically in danger, nor was he showing much competitiveness; his frustrations and struggles were related to goals for which less simple answers could be found, and this, as we are seeing, tends to promote the functional psychoses. The matter is very complex, and we will have to come back to it later after viewing related data from other groups. For now we may say that both in the resident Europeans and in the Eurasians a predisposition to some form of brain disorder, cerebro-vascular or organically psychotic, is probably quite strongly present. Whether it does not show itself in the arterosclerotic and senile psychoses because the precipitating factors are too weak or because its influence is diverted, we cannot say here, but we will be able to come back to the point again later.

The low over-55 rates apart, we have been assuming that the Singapore data support the general belief that Europeans in the tropics have high rates of mental breakdown. A closer inspection of Tables 32 and 34, however, suggests that this may not be true for a major section of the community, at least as far as the psychoses are concerned. In the resident male group we see that there are nine non-British to twelve British psychotic admissions. However, at the 1947 census only about a fifth of the total European population was non-British, and although this will have changed I doubt whether the non-British comprised in 1952 more than a quarter of the whole European male group or one-fifth of the female (they did not obtain such favourable conditions for the moving of their families and hence more of them were single). Since the estimated male psychosis rates in

first sight it would appear otherwise, for their non-psychotic admission

rates in Table 32 are unusually high. However, the meaning of this non-psychosis in Table 32 for all Europeans, British and non-British combined, exceed those for England and Wales at only one point, it follows that the incidence of psychosis among the British males themselves must have been below the overall incidence in their homeland, not above as had been assumed. The excess of psychosis in this male group is seen to lie wholly in the non-British, i.e., in those who had no community in Singapore with which they could identify fully. Not belonging to the dominant power, far from their homeland, and probably mainly working in agencies for continental European businesses which were at a disadvantage in relation to the well established British and Chinese, it is a minority whom we would expect to be particularly vulnerable to what I am calling the 'minority effect', i. e., excess male organic mental disorder. There is only doubtful support for this expectation in Table 2, but when we come to consider not the principal psychiatric diagnosis but the presence of concomitant somatic disease, then quite a marked difference appears. Fifty per cent of the non-British mental cases had some somatic illness, usually arteriosclerosis or hypertension, as compared to only 17% of the British. This is partly an age effect, but only partly. If I had separated the small but rather cohesive Dutch group from the rest, I think a still more marked difference in total incidence would have been shown, for the Dutch at this time comprised the main non-British European group but showed only three non-seamen admissions. The British resident males, then, had almost certainly a lower rate of hospitalised psychosis than in their homeland, at all ages (though not necessarily lower than the rate for Social Class II in that homeland, the class to which their life most closely compares). Does this mean that they have a lower incidence of mentally mediated disorder generally? At first sight it would appear otherwise, for their non-psychotic admission

rates in Table 32 are unusually high. However, the meaning of this non-psychotic hospitalisation is not clear; it is possible that it merely reflects the fact that out-patient psychiatric help, such as was by then common in Britain, was unavailable in Singapore. To this educational group in Britain the idea of psychiatric consultation, in concept if not in action, had by then become a commonplace, whereas among the other ethnic groups in Singapore it was still quite unfamiliar. We do not normally expect the common neuroses to seek residence in a state mental hospital, but in Singapore it is possible that such cases did seek this, as being the only way they might obtain psychiatric help. What we do know about these cases is that they were in and out of hospital very quickly, thus indicating that they did not accept the special meaning which mental hospitalisation usually possesses, and probably also that they had failed to obtain what they were seeking for (as explained earlier, the doctors were too few and too busy to give proper psychotherapy). From these figures alone, therefore, I do not think we can conclude anything. What of other indicators? Their suicide rate was probably high, not necessarily at this time but certainly in the 1920's when the Bishop of Singapore complained that there had been a steady average of two cases per year for the previous eleven years in an administrative group which could not have exceeded one thousand, and being administrators these were presumably British and not other Europeans. Their death rate, especially in the younger adult age groups, also appears curiously high, partly from accidents; though here I have been unable to assure myself at time of writing that deaths at sea or in the military hospital are not included.* For psychosomatic disorders, as a whole, the evidence I possess does not suggest

that the incidence is higher than in more temperate climates, (Table 36) but in one particular group there is a curious excess which I find difficult to explain. As Table 36 shows, appendicitis was three to four times higher in the Singapore males than in the New York ones and more than double the

explained earlier, the doctors were too few and too busy to give proper psychotherapy). From these figures alone, therefore, I do not think we can conclude anything. What of other indicators? Their suicide rate was probably high, not necessarily at this time but certainly in the 1920's when the Bishop of Singapore complained that there had been a steady average of two cases per year for the previous eleven years in an administrative group which could not have exceeded one thousand, and being administrators these were presumably British and not other Europeans. Their death rate, especially in the younger adult age groups, also appears curiously high, partly from accidents; though here I have been unable to assure myself at time of writing that deaths at sea or in the military hospital are not included.* For psychosomatic disorders, as a whole, the evidence I possess does not suggest

*The Chief Statistician, Singapore, has since written me "Our Death Registrations include deaths at sea within a three-mile limit (only) and also deaths at Service Hospitals." "However, Service personnel and their families are excluded from our population estimates" . . . "For this reason we regret that we ourselves are unable to place much reliance on the crude birth rate and crude death rate for Europeans." Success is again in the non-British rather than the British, here, but my impression was that this was not so.

that the incidence is higher than in more temperate climes, (Table 36) but in one particular group there is a curious excess which I find difficult to explain. As Table 36 shows, appendicitis was three to four times higher in the Singapore males than in the New York ones and more than double the Singapore female rate.*

Principal Diagnosis	Singapore General Hospital		N.Y. Health (11) Insurance Plan	
	M	F	M	F
Hypertension	0.86	0.52	0.41	0.61
Cerebro-vasc. Accid.	0.40	0.28	0.62	0.38
Peptic Ulcer	1.71	0.42	1.87	2.14
Asthma	0.23	0.40		
Hyperthyreoidism	0.06	0.28		
Appendicitis	8.4	3.60	2.44	2.17
Accidental Injury	10.90	2.50	6.71	7.66

TABLE 36. Estimated Rates of European Admissions to Singapore General Hospital, for certain Diseases; as compared with the equivalent rates for an insured population in New York. Rates per 1,000 per annum. (The Health Insurance Plan of Greater New York is a large prepaid private health service having contracts with unions, government departments, and companies. The population sample for the quoted study was mainly white collar, with an age distribution corresponding roughly to that assumed for the Singapore Europeans, so that the data are roughly comparable. However, it has not been assured that the categories exactly coincide, and age standardisation has not been effected.)

When gastritis, which in the tropics one thinks of as a bacillary disturbance rather than a psychosomatic, is added (Table 37) the sex difference is greater still although among the Eurasians this sex difference does not exist at all. Fossen has reported a similarly high appendicitis rate in Dutch soldiers - 6.25 (13) per 1,000 as compared to 0.56 for the Malaysian soldiers. We do not know enough about the relation of different types of psychosomatic disorder to social and personality factors, so that I cannot at present do more than simply offer these facts for perusal. A certain strain appears indicated, however, which is not present in the European women or the Eurasian men.

Principal Diagnosis	Europeans		Eurasians	
	M	F	M	F
Appendicitis	57	18	16	21
Gastritis	65	16	16	21
Gastric Ulcer	24	6	11	5
Duodenal Ulcer	30	3	17	-

TABLE 37. European and Eurasian Admissions to Singapore General Hospital for certain Gastro-intestinal Diseases. Appendicitis figures for 1956 only, Gastric Ulcer for 1948-51, others for 1948-52.

*It is possible that the excess is again in the non-British rather than the British, here, but my impression was that this was not so.

For the European females the suicide rate is low, the incidence of peptic ulcer is much lower than among their males or among the New York women, and the incidence of accidental injury is also comparatively low. These last two points are almost certainly related to the fact that they rarely work outside their home or face the worries of occupational competition. For the Eurasian women exactly the same can be said, plus the further interesting though not fully clear point that they have a low incidence of cerebrovascular accident as well. When we turn to the mental hospital data, however, the picture is very different. There we find that both female groups have high rates at most ages, the European cases being both psychotic and non-psychotic while the Eurasian are psychotic only. Most striking are the schizophrenia figures. In both cases the females have double the schizophrenia rate of their males. With the Europeans, also, we find that it is not the occasional unmarried woman, or the non-British, who breaks down thus, but the married British woman, despite her relative prestige, leisure, servants, and advantageous economic position. There are 50% more married female cases than married male, although we can assume that the married sex balance in the European group is the opposite way. The mental hospitalisations thus more than balance the low female suicide and peptic ulcer rates. What about other forms of minor disorder? In the British army, certainly, the wives showed proportionately much more minor mental disorder than the soldiers themselves, so much that it had been decided to ask for special advice or investigation of the problem (24) from London. In McGhie's report for 1951 there is one dependent seen with a psychiatric disorder for every three soldiers, although the proportion of families in the Far East (including Korea) cannot have been nearly so high. Similarly, in Table 36, we see that for asthma and hyperthyroidism the European women (excluding army dependents) have higher hospitalisation rates

than the men, and I think my Singapore colleagues in general practice would agree that at least as many women are seen with psychosomatic disorders as men. This is despite the fact that it is much easier for a wife to return to her homeland when feeling unwell or uncomfortable than for the husband, tied to his job; and I knew of a number of cases where that happened. Hence we have clear evidence that for the minor disorders their rates are probably at least as high if we take all conditions into consideration. Only in suicide do the female rates remain definitely the better. ~~breakdowns than their~~

~~less~~ ~~sing~~ Normally, an excess of female psychosis is associated with women being employed outside their homes and hence, presumably, being either frustrated in their feminine role or finding the double function too heavy for them. That is the picture with the Singapore Cantonese, which is the only Chinese subgroup where the women extensively seek outside employment, and the only subgroup where the female rate exceeds the male. But with the Europeans it was not the case, for few married women worked. The climatic group of hypotheses is similarly inadequate to explain the facts, since husband and wife shared the same conditions, and the adverse self-selection hypothesis is frankly contradicted, since in as far as self-selection takes place it operates on the husband rather than on the wife. There remain other social factors to consider, but before we turn to them there is the hitherto unconsidered possibility that advantageous self-selection may be at work.

Following former writers, we have so far considered tropical recruitment mainly in terms of its attraction for an unhealthy type of individual, the person running away from his home or from himself, or someone without a homeland and disturbed for that reason, or the schizoid without roots. For such people, however, the tropics are only one possibility among the many which

offer themselves, whereas to certain other types of individual they may constitute a specific attraction. These are the people who are intensely involved in a single goal - money, specialised knowledge, power, or the assisting of other people, etc. - which they find more nearly attainable in the tropics than anywhere else. Where rational planning has been possible and expectations are realised such persons are going to be more contented, and hence more stable, than others with broader interests and a more balanced personality. Hence they may easily have fewer mental breakdowns than their less single-minded wives provided the situation is such that their expectations are not frustrated. Where these expectations are frustrated, on the other hand, one will expect a high rate of breakdown, for they cannot spread their losses, and then their wives may easily have the lower rate. But for Singapore in the period with which we are dealing there was prosperity, expansion and experimentation. That may be one reason for the low British male rate.

The wives, less self-selected to such goals, must find less contentment in the attaining of them, and to counterbalance their favourable prestige, etc., are a number of specific strains or deprivations, not essential to the situation but so much a convention that they can be avoided only by deviating from the social norm. In the first place they are deprived of their children, as infants by the nursemaid whom convention says is necessary and as adolescents by the homeland school which convention also supports. Next, they are deprived of their customary housework by the servant, since they may be told that the climate makes it impossible for a European woman to do anything but the lightest work and in the first weeks of acclimation to they find it easy to believe this. Further, they may find their neighbours

and friends taken away from them, not so much by the migration which was something planned for, as by the scattering of houses through wide suburban belts, so that one's immediate European neighbours may be few and Asian neighbours need adjusting to. I knew many who broke with these conventions, and some whose upbringing had prepared them for such a life, but there were also many women who did no housework, made little contact with neighbours, and were dependent for social intercourse on a servant of different culture, different social class, with whom they could hardly speak.

In these circumstances one would expect depression, and so it proved, for half the minor disorders in this group of patients were reactive depressions. But the socially expected solution to the situation was not resigned acceptance of the deprivation, in which case one might have found more affective psychoses, but personal cultural adjustment - adjustment to the new upper-class roles, to Asian neighbours, and to the racial and cultural tolerance which constituted the intellectual climate of these years. Such expectation of cultural adjustment, as we are seeing elsewhere in this study, tends to be accompanied by schizophrenia, which is in fact what we find. There were nine female schizophrenias to only five male, and it is these schizophrenias that make the European female rate so high. The males did not have the same situation; they usually had other Europeans at their work, or a western-educated Asian colleague with whom intercourse was easy, or had armed themselves properly to learn a local language and culture. Moreover, the male had, in his technical knowledge and in the structured setting of his workplace landmarks whereby he could orientate himself in his cultural explorations. His colleagues and subordinates, that is to say, tended to conform to his expectations within the work situation. But the housewife's expectations

the non-servant-employing classes, because threatened. Either way, the cultural and other assumed landmarks were often illusions. Her knowledge of home situation threatened, but because isolation was not a problem (they management was not conformed to or accepted as authoritative, and her contented to be housed all in one area) and because there was no expectation of the role of guest or host might lead her into a trap. So she had a adjustment we find the response not leading in the direction of an effective much greater cultural leap to make in order to gain social satisfaction. She was somewhat in the same position as the Indian woman we considered in Chapter 2, except that the Indian woman's burdens increased with age as her satisfactions decreased and the absence of any expectation of cultural adjustment meant that she had no way out of the emotional deprivation she experienced, whereas the European woman, if she stayed and if she did not get that desired end, such as their husbands had in their official work. (This is also true of the American groups to be discussed next.) The husbands and single men, with the rigid army structure behind them, were not threatened

That picture belongs to a specific social setting. Elsewhere in the same way except in as far as they identified with their wives, and the the tropics, or even in Singapore itself, differences in circumstance or in incidence of this sort of disturbance (as apart from specific army problems of discipline) was less. In particular, McGhie's paper shows that National Among the army wives, for instance, it was not schizophrenia which caught the eye of the authorities but hysterias and situational neuroses. This group were still firmly fixed in the homeland and who mostly did not have families with them, had a much lower rate of psychiatric consultation than the regular soldier.

Two other variations may be mentioned, one from Java and the other fiction was that they were a little patch of England in a foreign clime. Only the climate was admitted to be different, but that climate, it was believed, necessitated having a servant, and this created trouble. If the servant was obtained then identification with the greater civilian European there is not the rigid army structure to give support (once it is adjusted to), community became possible but the isolation from local cultures was broken. If the servant was not obtained then identification with the civilian European group could not be achieved and identification with the non-Europeans,

the non-servant-employing classes, became threatened. Either way, the cultural situation threatened, but because isolation was not a problem (they tended to be housed all in one area) and because there was no expectation of adjustment we find the response not leading in the direction of an affective psychosis or of schizophrenia, but to psychosomatic complaints attributed to the climate and neurotic reactions against the army milieu. Being nearly all the wives of regular soldiers, of course, they had a further strain in that they knew their every action might reflect in some way on their husbands' chances of promotion but did not have a clearly defined means of attaining that desired end, such as their husbands had in their official work. (This is also true of the American groups to be discussed next.) The husbands and single men, with the rigid army structure behind them, were not threatened in the same way except in as far as they identified with their wives, and the incidence of this sort of disturbance (as apart from specific army problems of discipline) was less. In particular, McGhie's paper (24) shows that National Servicemen, who had been snatched up out of civilian life but whose roots were still firmly fixed in the homeland and who mostly did not have families with them, had a much lower rate of psychiatric consultation than the regular soldier.

Two other variations may be mentioned, one from Java and the other relating to small American groups anywhere. In the tropics, American company employees tend to follow the same army pattern of isolation from local cultures, but with the following differences. The units tend to be smaller, there is not the rigid army structure to give support (once it is adjusted to), the need for servants is less owing to the greater richness of services and appliances, and of course the originating culture is somewhat different. The

individual therefore tends to get caught between excessive interaction with the same few Americans at work and play, or consciousness of the mass of non-Americans around them. The first leads to the feeling of "living in a gold fish bowl" and too much introspection, with a building up of tensions and interpersonal antagonisms. The second leads to symptoms of "concern over drinking water, food, dishes, housing; unwarranted fear of contact with most nationals of the country . . . ; frequent washing of the hands . . . temper tantrums or fits of anger." (1) Here we get something like what must have been the classic picture in European posts at the time when adjustment to local cultures was never thought of, but in addition I think we have a more specifically American trait in the obsessive anxiety to maintain cultural purity in the face of a dominant, possibly 'colored' society.*

* The above quotation referred especially to Arabia. Once again the functional psychoses do not appear to have been high in the Europeans, but van Loon does think schizophrenia to be high among the Eurasians* (which again was probably the case in Singapore, right from the beginning of the century) on whom the choice of culture was continually being forced. Among his European males the predominant complaint was not an obsessive state, as with the Americans, but a neurasthenia. For this neurasthenia he offers some physiological explanations, related to climate, but the main factors were probably the social ones. Some of the psychosomatic complaints he mentions I found in Singapore also, but usually without the same distress - they were taken for granted and could be lived with - while others suggestive of the more classic psychosomatic disorders, mucous colitis for instance, I did not find there, and we have noted that in general they were not found in the Japanese concentration camps either.

* Among whom I include local-born families of pure European descent, since culturally they are quite close.

In these American groups the males were probably as much affected as their wives, thanks to the 'gold fish bowl'. In Java, ⁱⁿ the 1920's, van Loon⁽²³⁾ was seeing in his private psychiatric practice twice as many European and Eurasian males as females, although the sex ratio in the population was probably less than $5/4$ ⁽⁷⁾. In Singapore, at the same period, mental hospitalisation of European and Eurasian males was also probably in excess of female, even after allowing for population ratios and for the seamen group. At that time, at least in Java, frustrations in the work situation must have been relatively much higher than in post-World War II Singapore. There was labor agitation, a move of the government against the hitherto excessive mercantile exploitations, and intellectual Indonesian nationalism was growing. The social expectation of the Dutch was neither isolation from the local culture nor adjustment to it, but rather coexistence. Once again the functional psychoses do not appear to have been high in the Europeans, but van Loon does think schizophrenia to be high among the Eurasians* (which again was probably the case in Singapore, right from the beginning of the century) on whom the choice of culture was continually being forced. Among his European males the predominant complaint was not an obsessive state, as with the Americans, but a neurasthenia. For this neurasthenia he offers some physiological explanations, related to climate, but the main factors were probably the social ones. Some of the psychosomatic complaints he mentions I found in Singapore also, but usually without the same distress - they were taken for granted and could be lived with - while others suggestive of the more classic psychosomatic disorders, mucous colitis for instance, I did not find there, and we have noted that in general they were not found in the Japanese concentration camps either.

* Among whom I include local-born families of pure European descent, since culturally they are quite close.

The Eurasian position in contemporary Singapore offers yet another variant, for although the females are in the same minority position, do not usually seek work after marriage, tend to be scattered among Asian neighbors, adhere at least partially to the same originating culture as the European women and show the same striking excess of schizophrenia, there is the obvious difference that they are natives to the locality and hence have been brought up to deal with it, while on the other hand they do not have the same social prestige. One result of this difference is that the mean age of schizophrenic breakdown is quite different; another is that reactive depressions were absent whereas the much more grave involuntional melancholias take their place. I must confess that I was surprised at this high rate, for they do not suffer the culture shock of the immigrant, the husband-domination of the Indian or the working strain of the Cantonese, yet they have higher rates than their males. An explanation might have been that the cases were forced to seek work while untrained for it or suffered a conflict between personal career (which is a goal for some Eurasian girls) and marriage, but for only two actual cases was such outside employment recorded. Another possible source of strain was marriage to a European (there is a tendency for Eurasian girls to be courted by Europeans, and more recently for Eurasian men to be sought as sons-in-law by certain Chinese groups), but then one would expect the breakdown to occur in the husband's homeland, unless repatriation and separation from the husband had occurred, a possibility for which I have only evidence. The most plausible explanation I can offer relates to cultural problems of securing one's children's future. As mentioned above, the Eurasian has always been faced with culture conflicts, but since the last war assessing inflated and punitive superages, or as having a tendency to obsessive

these have taken new meaning. When European civilians were evacuated from Singapore in 1941 Eurasians (and Asians) were also taken if there was room, but otherwise they had to stand aside as second-class citizens, the rationalisation being that they had a better chance of being viewed as Asians when the Japanese arrived. When the Japanese did arrive, however, they were put into concentration camps just like the remaining Europeans. This experience was a serious trauma, and one found two main responses. Among some Eurasians the inclination became to live for the present and ignore the future, a thing which was easier to do since the present was prosperous. Among others, and here we may put especially mothers with children, there was much fruitless searching for ways to ensure their children's security (the same was taking place among the Chinese in Burma, Thailand and Indonesia, where local nationalisms threatened them almost equally with the European) (14). The two main alternatives were identification with some Asian majority or migration overseas, and it is possible that our schizophrenic cases represent failed attempts at one or other solution. In such a situation, the female once again suffers more than her husband from lack of the landmarks which professional or technical knowledge provides, and the mother cannot live so easily for the present as the unmarried girl or the person whose children are old enough to think for themselves.

There was a further point about the Eurasian female cases, however. A quarter of them were involuntional melancholias, although this diagnosis only appears in 7% of the total female caseload. Of the numerous theories in relation to this condition most seem inappropriate to what I know of the Eurasian culture. It is difficult, for instance, to see them as possessing inflated and punitive superegos, or as having a tendency to obsessive

personality (although there may be a subtype of Eurasian with the latter trait). Nor is the theory that there has been a manic-depressive tendency since adolescence supported by our data. What seems best to fit the case is the association sometimes postulated between this condition and narcissism. As a group, Eurasian women show early physical maturation, considerable beauty (in the eyes of all the local peoples) and then early loss of that beauty. It is thus possible that the early dominance of the body encouraged a form of narcissistic fixation and thence led to excessive sense of loss when appearances altered and endocrine involution threatened. In Java, van Loon noted a special group of spinsters who had resisted marriage and who in later life were particularly prone to mental disturbance of various kinds, but he does not specifically mention involuntional melancholia and on the above hypothesis one would not expect it. In Singapore, all the involuntional cases were married, and although a spinster group existed I do not know of any special disturbances among them, perhaps because personal career is a real possibility for this group, as it may not have been in Java.

Among the Eurasian male cases, on the other hand, celibacy does possibly play a part, at least in the young. I have mentioned that Eurasian girls tended to be courted by Europeans, while a few also prefer a single career. So, despite the more recent tendency for the men to marry Chinese there is quite a striking discrepancy in the marital status figures of the 1947 Census, as the figures opposite show, and in the admissions single men clearly predominate. They constitute almost two-thirds of all cases, and almost five-sixths of those under 35. Hence among my Eurasian students I found the question of finding a partner to be the greatest (though not very great) anxiety, and I

		<u>Males</u>	<u>Females</u>
Single		1,560	1,122
Other		1,494	2,110
		<u>3,034</u>	<u>3,232</u>

think it possibly true of young Eurasian males generally; they had little worry about finding a suitable job, or about the threats which the future might hold, but they did have some question about finding a bride. That this might have been a factor in mental breakdown is supported by the fact that these younger mental hospital admissions were nearly all mild cases with the affective disorders predominating (there was only one schizophrenia under age 35), receiving early discharge and apparently not relapsing, a picture reminiscent of the young Malay cases. Definitely, this age group gave the impression of living for the present and ignoring the future's threats. After age 35, however, the clinical picture becomes quite different. Schizophrenia and paranoia increase, the prognosis for the other disorders is poorer, the imbalance in marital status disappears, and the psychosis rate rises above either the Singapore or the British average. This is the age at which security begins to become important, when responsibilities snowball in family and in occupation, and when the prospects of change of job or domicile become threatening instead of enticing. Change and insecurity did threaten, as I have discussed above, and the burdens of responsibility at work were also quite heavy. In comparison, conscious gratifications were rather few, for the privileged social status was taken for granted and it was its retention which occupied the mind, especially in the face of Asians who, starting from less, had developed their abilities better in the climb. At this moment the Eurasian is without the security of the European or the single-mindedness of the successful Asian immigrant, but he can only partly follow the Malay side of his heritage and accept peacefully what he is fortunate enough to possess. This may explain the excess of psychosis which we find in later working life and its disappearance when he retires

and his children are grown. On the other hand one may prefer to see the high levels of psychosis in both males and females as arising from something deeper, from a genetic or childhood influence. As previously stated, Eurasian rates were apparently high ever since the beginning of the century, and van Loon has stated that in Java they appeared to show relatively much schizophrenia also. Both genetic and childhood influences could be excluded as something independent of the adult social situation if we could find a single example where the rates were clearly not raised and where the people came from the same stock (the part-Hawaiians and Cape-colored can thus not be cited). With the exception of the over 55's, however, I cannot show definite evidence of any such group. It is suggestive that in the earlier Singapore years it was only the males who had the high rate of mental hospitalisation while the female rate was apparently low, but I lack the fuller information which would enable me to put weight on this. The explanations I have offered appear the most plausible, but others, including the genetic, cannot be ruled out on the basis of present data.

We have now almost exhausted what can be said about the Singapore European and Eurasian groups, but there remains the borderline group, the European seamen. They accounted for as many mental hospital admissions as all other European males put together, yet we can say hardly anything about them. Potentially they are of considerable interest for the reason that their main social and physical milieu remains the same whether they are in the tropics or the arctic, whether they are British or Dutch or Scandinavians. Hence if we could show that patterns of mental hospitalisation in the tropics differ in this group from patterns in temperate climes there would be some ground for presuming climate to be a factor. This is not wholly true, for

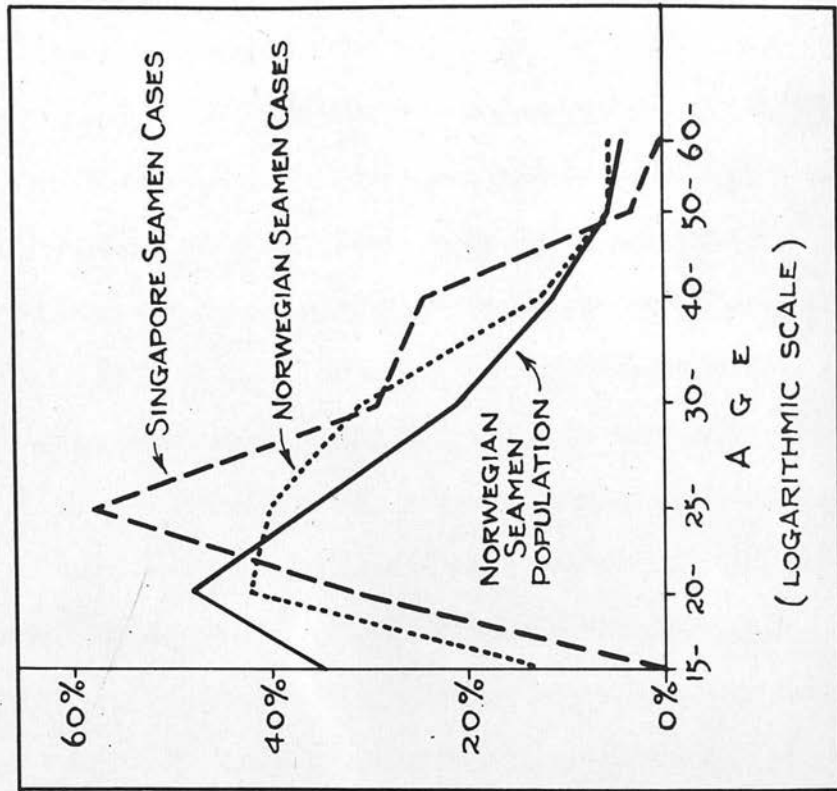


FIG. XV. Percentage Age distribution of European Seamen admissions to Singapore and Norwegian mental hospitals, with age distribution of the Norwegian seamen population (Norwegian data after Odegaard (27)).

in five years one would expect a sufficient number to pass through Singapore for ships' masters with consideration for their crew may try to carry a mental patient back to his homeland if they think this can be done without danger, and the idea of danger may affect the pattern of hospitalisation; for instance, simple schizophrenia may be nursed along while manics and suicidal depressives get hospitalised as soon as possible. Nevertheless, the comparison is tempting and may be roughly obtained provided we assume - with what justification it is difficult to say - that the age distribution of sailors is approximately the same throughout the world. Given this assumption we can compare mental hospitalisation in Singapore and in Norway (27,36), if not by incidence at least in terms of age distribution and comparative diagnosis. Fig. XV shows the age curves, alcoholic and syphilitic cases being excluded from both groups since for Odegaard (27) these appeared to constitute a special case. We see that the Singapore admissions have a narrower range and a later median/ The diagnostic distributions are in accordance with this in that we get fewer schizophrenia, fewer (in fact, none) arteriosclerotic and senile cases, and more manic-depressives. On this last point the picture in the two places is very different indeed, with the schizophrenia/manic-depressive ratio in the Norwegian seamen being over 6/1 whereas in Singapore it is 1/1; but this is probably mainly linked to the hospitalisation policy referred to above, and to differences in diagnostic outlook. The fewer cases in the youngest age group is probably also related to such policy. The absence of arteriosclerotic and senile cases, and lower incidence in older age groups generally is a different question, for in Norway the seamen had a standardised incidence rate for this group of disorders which was double that for any other occupation. Certainly, the proportion of the seamen population aged over fifty must be small, but

in five years one would expect a sufficient number to pass through Singapore to produce one or two cases. What is interesting is that this is the same point which was most striking in the resident Europeans and the Eurasians, whereas the explanations which most easily offered themselves with the latter groups are not at all suitable here. We cannot say, I think that precipitating factors are absent from the life of a working seaman, officer or otherwise, and there is not much evidence that the influence of a presumed predisposition is being diverted (although, of course, we do not know the incidence of cerebro-vascular accidents here). The one thing which the shared by Norway is the climate, and so these observations - admittedly exceedingly tenuous - do suggest that a climatic influence may not be impossible. One could, for instance, hypothesise that a higher environmental temperature would induce vasodilation, and that cerebro-vasodilation would counteract most likely to be resulting in raised rates of mental disturbance in Singapore Europeans are ones which we meet equally outside of the tropics and step between atherosclerosis and senile psychosis. I do not know of any physiological studies to support such a hypothesis and there are other reports on life in hot climates (34) which might suggest other mechanisms - a change in electrolytic balance, for instance, or an adrenocortical disturbance - but some such influence seems within possibility. The basis for such theory cannot lie here but I mention the matter to show that climate is not wholly ruled out.

One other drop of information which the seamen cases can give us relates to culture. In discussing the resident male Europeans I pointed out that the incidence among the non-British group was much higher than among the British, and the types of disorder different. This seemed to be related to reason. The tropical climate may demand physiological adjustment, but we

to the fact that the British were the dominant power in Singapore, but some reader might think that a racial or cultural difference was at work - that the British were superiorly healthy genetically, for instance. From the seamen cases we cannot compare incidence of British and non-British, but we can compare the types of disorder shown, and here one finds that the diagnostic distributions are very similar. For seamen, therefore, difference in cultural background shows no differences in type of disorder comparable to those found between the British and the non-British resident groups, which suggests that the latter differences were, as claimed, linked to local social factors rather than to basic culture.

From these relatively few pieces of data our main conclusion now seems to be only that no special pathological relationship exists in the conjunction of a European population and a tropical milieu. The factors most likely to be resulting in raised rates of mental disturbance in Singapore Europeans are ones which we meet equally outside of the tropics and outside of the European group. They are factors like cultural isolation, failure to cater for social needs, the strain of adjusting socially or culturally to meet such needs, etc. We have no evidence that the tropics as such attract an unstable type of personality, provided reasonable possibilities of goal attainment are available. Of course, if such possibilities are not available, then we will tend to find remaining in such situations only the inadequate or disturbed person who is equally mis-suited in a more normally satisfying situation; but this is as true of temperate countries as of the tropics, and in the former we could also find occupational or geographic categories of men in whom breakdown was high for this reason. The tropical climate may demand physiological adjustment, but we

then, until his work permitted him a vacation, and then consumed them all

have found no evidence that this adjustment process causes or is accompanied by mental disorder. Certainly, Singapore had a much more kindly environment than many tropical locations, but we have seen how maladjustments apparently disappeared in the internment camps, which were not so kind. The only effect of climate which our data suggest is a possibly beneficial one, the doubtful effect on the incidence of senile and arteriosclerotic psychosis.

Regarding cultural differences there is not much that our data can show, but something can still be said. First, we have noted that the Europeans alone among the Singapore peoples suffer significantly from pathological alcoholic addiction and from alcoholic psychosis. Why this should be it is difficult to say, especially since we recognise alcoholism as a most complex and scarcely understood problem. In tropical European societies drinking together is a well-established social custom, and the beverages preferred are those of high alcoholic content. But this is also true of certain Chinese groups, although the latter tend to drink while eating. Social isolation may be a factor in consumption for we know it to be frequently present and the Mowrers have shown that it is associated with the development of one type of alcoholism in the U. S. A. But I doubt whether volume of consumption is the real problem. Rather I see it as lying in the dependency which develops, and here a cultural factor may exist in the presence or absence of a sense of guilt. Caudill's most interesting discussion (6) of Japanese drinking patterns suggests that massive intensive consumption of alcohol can occur in that culture without serious after-effects. The other distinguishing mark of the Singapore European patients (he cites the case of a Japanese acquaintance who quietly saved up several dozen bottles of American whiskey, without apparently any pressure to use them, until his work permitted him a vacation, and then consumed them all

at a stretch and was able to return to his work again apparently without need for more) partly for this reason. In some other cultures, however, even if alcohol is not being consumed to assuage guilt - as it often is - then consumption over a certain point will usually make a feeling of guilt to appear, since these cultures regard such consumption as sinful in itself. The vicious circle can then be more drinking to assuage that guilt, more guilt aroused by the drinking, until the guilt conflict produces a complete breakdown in ego functioning. That is one possible reason why such psychoses may develop in Western cultures (especially Protestant ones). Another reason may arise from the juncture of physiological acclimatisation and the same Protestant ethic. Where work and productivity are near to Godliness a reduction in the amount of work possible (Weinberg noted that in Dutch migrants to Palestine the most noted change was a markedly increased need for sleep; and in most tropical areas a similar need is shown, in the siesta habit for instance) may be felt as a personal threat. Since alcohol in moderate amounts induces an illusion of greater efficiency its regular use in such amounts may be tempting under the circumstances, and it is just this sort of personality who is likely to feel guilty later when he discovers that he has become rather dependent on his daily dose. My data do not prove these hypotheses and I am sure that if a full investigation were made many more contributory factors would be found; but I do suggest that this particular aspect of the mental breakdown pattern is more closely related to culture than to any other feature in the tropical European's background.

The other distinguishing mark of the Singapore European patients was the persecutory nature of their hallucinations and delusions. Since

in making these points I am stressing only one aspect of the culture, one this point was not studied in all cases and since I am not sure that the which readers may feel is not as differentiating as I am making out. I can sample I took was random I cannot say that ideas of persecution were def- only plead that with such slight material I can do no more than hint at intely more a feature of the total European caseload than of the Asian ones, such differences, and that this superego dominance is the thing which has but Table 38 below shows that for those cases in which I did seek and find both struck me and has appeared to express itself in the material. The evidence of hallucinations or delusions, the average percentage whose con- subject is obviously a fascinating one, but it needs research of its own

tent was persecutory elsewhere, was 29%, whereas for the Europeans and Eur- asians the percentage was 62%; a marked difference.

	Hallucinations and Delusions			
	Persecutory	Religious	Other	TOTAL
Europeans	13 (62%)	1	7	21
Eurasians	3 (60%)	-	2	5
Chinese	58 (24%)	30 (12%)	156	244
Indian	26 (37%)	11 (16%)	33	70
Malaysian	9 (29%)	3 (10%)	19	31
TOTAL *	110 (29%)	46 (12%)	219	375

TABLE 38. Content of Hallucinations and Delusions in sample of Male Patients, Singapore, 1950-54; by Ethnic Group (*Includes 4 "other Ethnic Groups")

There would appear to be two elements in this difference - organisation and projection. Organisation may be largely a matter of education, the less educated person being more willing to permit detached ideas and hallucinations to appear without trying to force them into some logical system. Projection, on the other hand, should be linked to superego control again, since the greater intolerance there is of aggressive feelings within the self, the more these will have to be projected onto the environment. In the Asian cases in Table 38, education and occupation correlate with proportion of systematised delusions and hallucinations, but not specifically with persecutory ones; they are as likely to be systematised religious fantasies. This predominance of persecutory ideas in the European cases, therefore, is probably linked not so much to their education as to their culture, in particular to the superego dominance which one finds there. I recognise that

in making these points I am stressing only one aspect of the culture, one which readers may feel is not as differentiating as I am making out. I can only plead that with such slight material I can do no more than hint at

In the last four chapters we have considered the effects of many such differences, and that this superego dominance is the thing which has environmental variables and their accompanying social interactions, but in both struck me and has appeared to express itself in the material. The each case their influence has been assumed to be subordinate to that of subject is obviously a fascinating one, but it needs research of its own the wider cultural experience. The usefulness of emphasizing such inter-elsewhere. relationships is very great, but to continue only in this fashion would be to espouse the heresy of cultural relativism. Science must always be a movement from the particular to the general and the development of our field as a science seems impossible if one continued to insist that a particular causal relationship could only be understood or predicted when we possessed full knowledge of the specific cultural experiences preceding it. Sociology and social psychology have attempted to arrive at abstracts or types of social relationships which are independent of the cultural setting, and it is in this direction that we must now attempt to follow. There exist today quite a number of theories or sets of empirical findings regarding relationships between specific social situations and mental breakdown rates, most of which are assumed to possess a general validity for mankind although usually derived from research in only a single cultural setting. I have already remarked that for many of them the assumed general validity seems doubtful, but if that validity could be supported, or if its limitations could be better defined, it would be a considerable step forward, since we could then predict certain effects without knowing the full background picture. I therefore want now to test some of these hypotheses in a very different cultural setting from that in which they were evolved, and in as far as our material here presents

Chapter 6

IMMIGRATION, LANGUAGE, AND MINORITY GROUP STATUS

In the last four chapters we have considered the effects of many environmental variables and their accompanying social interactions, but in each case their influence has been assumed to be subordinate to that of the wider cultural experience. The usefulness of emphasising such inter-relationships is very great, but to continue only in this fashion would be to espouse the heresy of cultural relativism. Science must always be a movement from the particular to the general and the development of our field as a science seems impossible if one continued to insist that a particular causal relationship could only be understood or predicted when we possessed full knowledge of the specific cultural experiences preceding it. Sociology and social psychology have attempted to arrive at abstracts or types of social relationships which are independent of the cultural setting, and it is in this direction that we must now attempt to follow. There exist today quite a number of theories or sets of empirical findings regarding relationships between specific social situations and mental breakdown rates, most of which are assumed to possess a general validity for mankind although usually derived from research in only a single cultural setting. I have already remarked that for many of them the assumed general validity seems doubtful, but if that validity could be supported, or if its limitations could be better defined, it would be a considerable step forward, since we could then predict certain effects without knowing the full background picture. I therefore want now to test some of these hypotheses in a very different cultural setting from that in which they were evolved, and in as far as our material here presents

us with new hypotheses I hope that these in turn will be tested elsewhere.

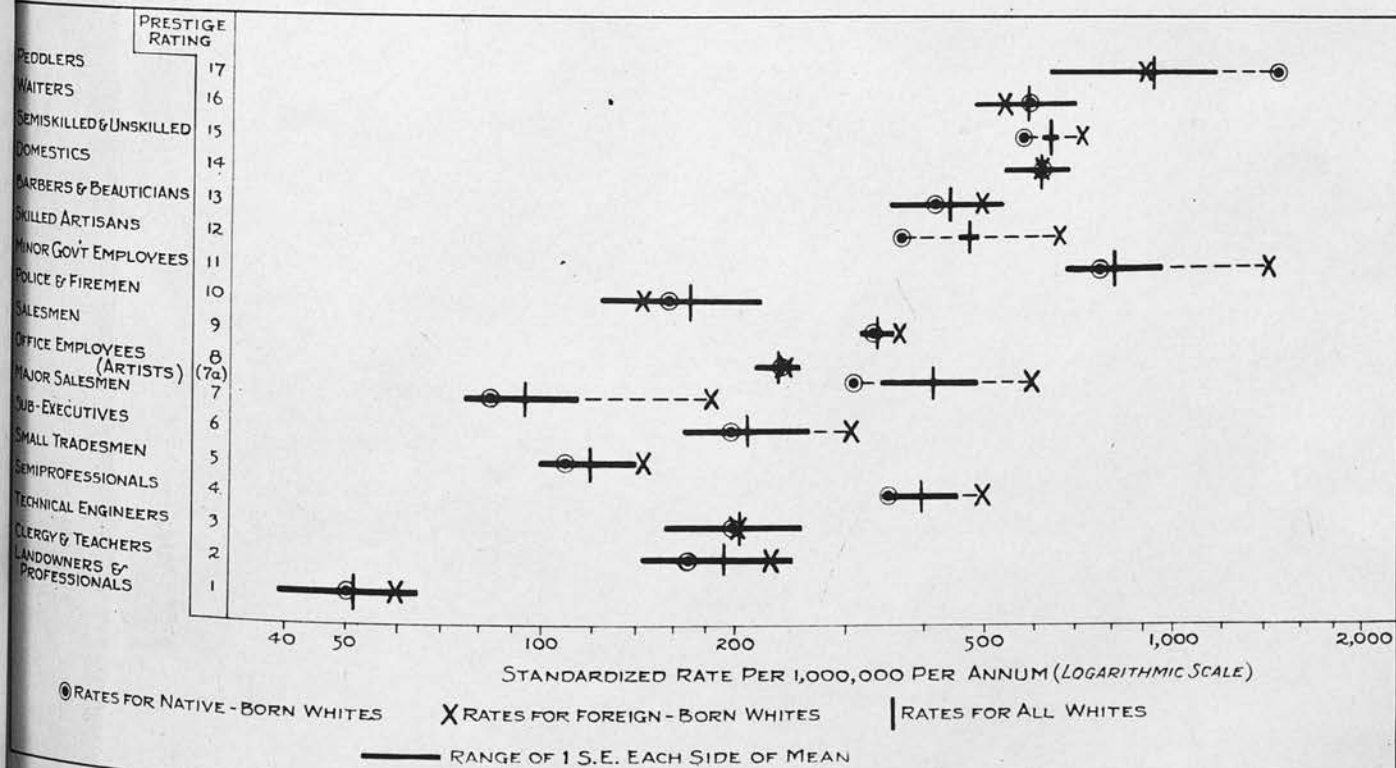
Probably the best documented, though by no means best understood, relationship between mental disorder and a specific social situation is that concerning immigration. As is fairly well known, there has been considerable interest in this question within the United States ever since the turn of the century, culminating in the work of Odegaard (14) and Malzberg (9) from the 1930s to the present time. These workers first made clear that the apparent excess of immigrants in mental hospitals which had been so disturbing to earlier writers was largely an artefact induced by the abnormal age and sex structure of immigrant groups, so that when standardisation for these variables was introduced the difference between immigrant and native rates of admission to mental hospital was considerably - but by no means wholly - reduced. Subsequent studies broadened and supported these initial results, and we may summarise current knowledge as follows:

- a) Immigrants have higher age-standardised rates of mental hospitalisation than the native-born offspring of immigrants, and the latter in turn have higher rates than the native-born of native parentage. (9)
- b) This is independent of ethnic group, age, and sex. (9)
- c) The greatest differential between immigrant and native-born rates occurs above the age of 70, and the next greatest in the 20-29 decade. (9, 10, 14)
- d) Immigrants show less difference between male and female rates than do their offspring, but more than do the offspring of native-born parents. (9, 10)
- e) Regarding specific diagnoses, the immigrant/native difference is greatest for the organic type psychoses and for schizophrenia (including paranoia). (9, 14, 16)
- f) The difference between immigrants and native-born affects not only mental disorder but also general mortality, and an association is assumed to exist between the latter fact and the excess of organic type psychoses. (18)

The presumption has been that these relationships are largely independent of other social variables and that they would apply not only in the United States but to other countries of European settlement. However, evidence to support this presumption is curiously slight. Regarding other countries the main obstacle has probably been that their censuses (excluding Canada) do not provide the basic data on nativity and immigration necessary for such a study. Certain special groups have been investigated, Africans (3) in France and European refugee groups in Great Britain (13), for instance, but it has usually been impossible to effect as full analyses as the United States census affords. Even within the United States, however, serious limitations exist. Studies have been done in relation to citizenship, to language, to ethnic group, but none has been done with reference to the occupational strains which immigrants meet,* or the neighbourhood in which they settle, or the types of primary group they belong to. Furthermore, no satisfactory theory has been deduced to explain just what it is about migration which brings out the extra mental cases. Originally one tended to think in terms either of adverse pre-migration selection (as has been discussed with regard to Europeans in the tropics) or in terms of the strains associated with changing one's culture, but neither of these hypotheses has proved fully satisfactory. In the matter of adverse selection one must recognise that the individual or community motives for migration may be very varied. Under one set of circumstances the less competent members of a community may get pushed into migration by free competition for livelihood (or tempted by some Eldorado myth) whereas under different conditions it may be the weak who are protected and held at home while the more competent are sent abroad. As argued previously, there are no good a priori reasons for regarding such selection as adverse,

* See note on next page.

* When writing the above I had overlooked, as apparently have most other writers on migration, that nativity was included as a variable in Clark's occupation-specific mental hospitalisation data from Chicago. I know of no reference to his findings in discussions on migration effects; yet it is of considerable interest, especially if one re-analyses it. For this reason I have thought useful to show these findings here, in a form somewhat different from that in which he presented them. We see that there is a considerable excess of immigrant schizophrenia rates over native ones in certain occupational categories, but no excess of even a deficit in other categories. However, the general picture is quite clear; when the factor of occupation is held constant, immigrants did in Chicago show higher schizophrenia rates than natives. What differentiates those occupations with high immigrant/native rate differentials from those with low it is difficult to say, but one impression is that those with the higher differentials tend to be the ones in which workers are most efficiently and defensively organised. (Clark, R. E.: The Relationship of Schizophrenia to Occupational Income and Occupational Prestige - Am. Sociol. Rev. '48, 13, 325.)



and empirical evidence for such a belief is very slight. In Norway, for instance, Odegaard has shown (15) that the population that stays in the countryside has a higher mental hospitalisation rate than that section of it which has migrated to the towns, and something similar might be suspected from Mayer-Gross's Dumfriesshire survey (11). Regarding the culture change hypothesis support seemed to arise from Malzberg's (10) finding that Anglo-Saxon immigrants had the least raised rate of any immigrant group in the United States, but since then he has produced further evidence showing that migrants from one state to another within the United States (for whom relatively little cultural adjustment would seem to be necessary) had as high and sometimes higher rates of mental hospitalisation than migrants of various cultures from other lands. In fact, there appears to have been a steady decline in the native/immigrant rate differential over the years, suggesting that, whatever be the reason, it may soon disappear entirely. In Massachusetts, for instance, admission rates for the 'native born of native parentage' group increased by 9% between 1917 and 1933, whereas those for 'native born of immigrant parentage' increased by only 2% and those for 'foreign born' did not increase at all. (4)

By 1940 in New York State the native-born nonwhite population had a higher admission rate than the foreign-born nonwhite at most ages, although the differential for whites was still in the other direction (10). One important possibility for this change is that potential immigrants of doubtful personal stability, health, or heredity are being increasingly strictly rejected on pre-migration medical examination so that the United States has initially an immigrant population of superior health today in whom the mental disease

results of the migration itself get masked. Whatever the reasons, however, the fact is that an explanation for this well-established but apparently disappearing association between generations of migration and level of mental hospitalisation in the United States appears to be moving not closer to our grasp but out of reach. It is for this reason that studies from other lands, particularly from lands like Singapore where medical standards of entry are negligible, are highly desirable.

Nativity and migration data were not recorded for all mental hospital admissions in Singapore, and to avoid possible bias in the physicians' decisions to note the information it seemed preferable to confine our attention to a sample of 326 specially studied consecutive admissions from 1954. This greatly limits the scope of our enquiry, which must then still further be restricted by the fact that the age distribution of the immigrant population was not given in the census and had to be estimated from other sources. Hence it will not be possible to draw any firm conclusions in confirmation, contradiction or explanation of the United States findings. However, some differences of interest are still apparent, and certain other data, though not directly relating to immigration, may indirectly be relevant.

Figure XVI shows the proportion of Chinese immigrants to native-born in Singapore at the 1947 census and in other samples, and our first impression is that it belies the traditional American findings since the proportion of immigrants in the hospital sample is lower than the lowest estimate of their proportion in the general population. (Children are excluded in all cases.) We would not wish, of course, to draw conclusions from so crude a comparison alone, since we know how age distribution has distorted such

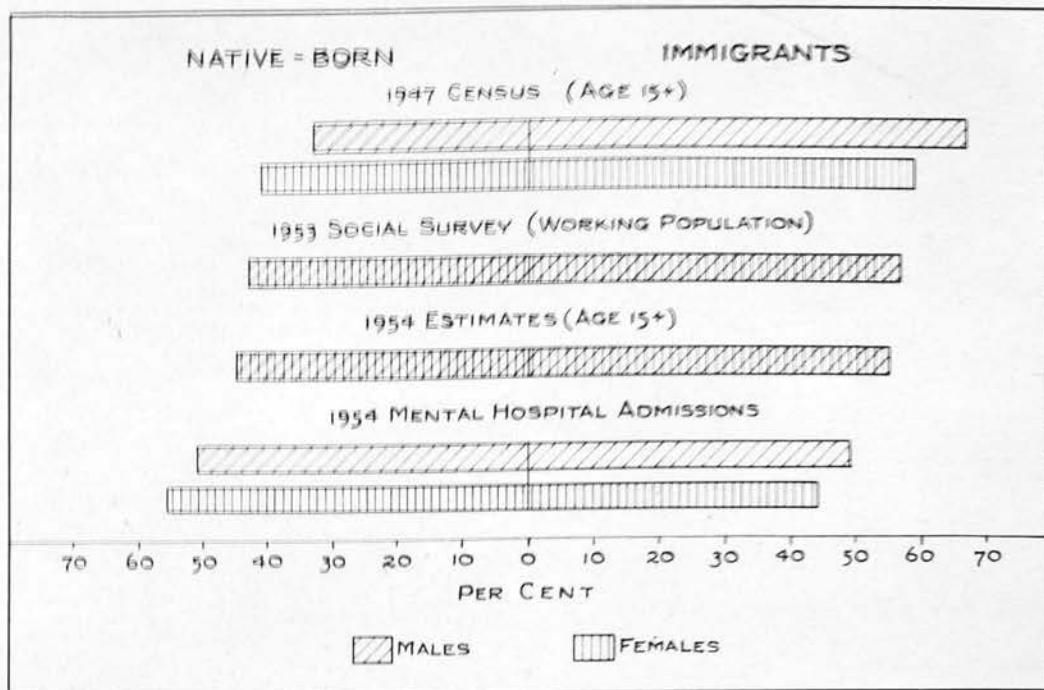


FIG. XVI. Percentage distribution of Immigrants and Local-born in a Singapore Chinese mental patient sample, as compared with the proportions at the 1947 census, the 1953 Social Survey, and as estimated for the 1954 population. (All Chinese only.)

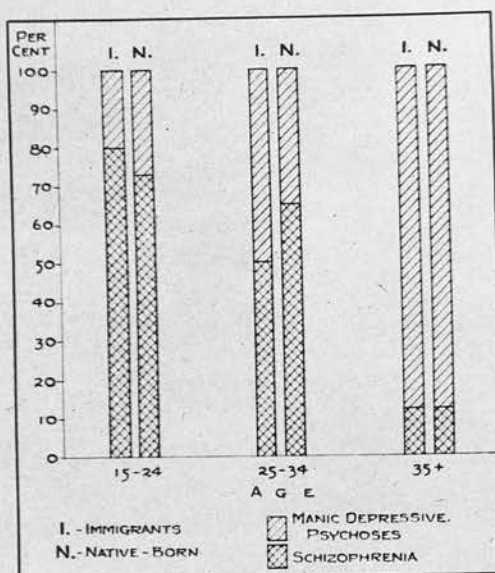


FIG. XVII. Schizo/Affective Ratios in Chinese Immigrant as compared with Chinese Local-born patient groups, by three age spans.

assumption in the past, but there are two reasons for thinking that age distortion is not the explanation here. In the first place mental hospitalisation in the Singapore Chinese does not follow any simple age trend. It is low in early adult life where the majority of the population are native-born, but low also in old age where the majority are immigrant, reaching its highest point in middle age where immigrants and natives are fairly balanced. Hence one would not expect much distortion of the overall rate differential.

The second reason is that when one does attempt to estimate the percentage of immigrants in the Singapore Chinese population at each age group for 1954, then we find the proportions in

the patient sample agree fairly closely,

though slightly higher in youth and old

age and definitely lower in between

(Table 39). The estimates may be

deceptive, but as far as they go they

seem to suggest that although immigrant

incidence rates might exceed native-

born ones below the age of 25 or above

that of 65 they should be less than the

native-born ones over the years when

incidence is highest, and hence should

lead to a lower overall rate appearing.

This is what Fig. XVI indicated. By

using two different modes of estimation, therefore, we get the impression

that the immigrant Chinese in Singapore have lower rates of mental hospitalisa-

Age Group	Patient Sample		Population Estimate	
	M	F	M	F
15-24	(29%)	8%	10%	10%
25-34	19%	21%	20%	20%
35-44	52%	48%	80%	75%
45-54	63%	66%	85%	80%
55-64	100%	71%	90%	75%
65+	100%	80%	95%	65%

TABLE 39. Percentage Immigrants in successive Age Groups of a Mental Hospital Admissions sample in 1954, and as estimated in the Singapore Population; Chinese only, by sex. Percentage to whole number only.

Note: Population estimate was arrived at by combining 1947 census data on length of residence in Singapore with Ta Chen's (17) data on age at time of emigration for a South China migrant population, and then extrapolating for 1954 in the light of later immigration data.

... on them no activity data were obtainable are excluded, per unit ...

tion than the local-born Chinese, an impression which lies contrary to the established United States findings. Nor are the Chinese the only Singapore group for which this can be said. They were used alone here because they were the only ones for whom I could effect the necessary age estimates and immigrant/local-born comparison, but we have already seen in the last chapter that the British males, who can be regarded as virtually all immigrant, had lower rates than either local-born Eurasians or (keeping in mind the questionability of such comparisons) than the average population of their homeland. Hence for two important Singapore immigrant groups we find no rise in mental hospitalisation as compared with the nearest local-born groups against whom we can match them. On the other hand the British women and the nonBritish European males did have unusually high rates, and these were also immigrants, so our findings so far are not very clear. What seems probable is that either immigration has less influence on mental disorder in these various groups than certain other factors, or that its influence is not unitary but must be sought in different ways for different situations. Let us therefore move on to analyse our findings in more detail.

Immigrants to the United States of America showed their greatest excess rates in the organic type psychoses and in (9,14) schizophrenia. In Singapore the matter is complicated once more by the question of age distribution, but Table 40 gives us something to work on, I think. We

DIAGNOSIS	Immigrant			Local-born		
	M.	F.	T.	M.	F.	T.
Schizophrenia	13	8	21	28	29	57
Affective Ps.	27	30	57	23	22	45
Organic Type Ps.	21	15	36	5	7	12
Ac. Confusion	5	5	10	1	2	3
Sen. & Arterio.	5	6	11	-	1	1
Gen. Paresis	11	1	12	4	-	4
Other Organic	-	3	3	-	4	4
Other Admissions	2	6	8	7	5	12
TOTAL	63	59	122	63	63	126

TABLE 40. Special sample Mental Hospital Admissions, by Nativity, Sex and Diagnosis, Singapore, 1954. (NOTE: Visitors such as seamen, and others on whom no nativity data were obtainable, are excluded.) so that total comes to less than 326.)

see, first, that the foreign-born show less schizophrenia than the local-born, not only absolutely but in relation to the affective group of disorders also. Naturally, this could be the result of the age shift, but when one analyses that schizophrenia/affective-psychoses ratio by age group, as is done in Fig. XVII, then we find that neither the apparent nor the expected difference appears. Immigrant and local-born patient samples show almost identical S/MD ratios in each age group. Once more, therefore, we have failed to confirm a well-established American finding. With the organic type disorders, on the other hand, the earlier studies seem quite supported. In the case of the senile and arteriosclerotic disorders the difference, though striking, is probably not as significant as it appears, since we saw in Table 39 (which, however, referred to the Chinese only, whereas the figures here apply to all admissions, of whom the Chinese comprised about 80%), that above the age of 45, immigrants form a high percentage of the population. With the acute confusional states, which arise mainly in the younger age groups, however, the difference is very clear, and with general paresis it is suspicious, since although immigrants probably use prostitutes more than local-born men do the difference is quite striking. Moreover, we have already seen in Chapter 4 that overseas Malaysians (probably but not necessarily first generation immigrants) had a quite different incidence of organic type admissions and of admissions in later life than the local Peninsular Malay. Here at last, therefore, we do seem to possess an effect which is clearly linked to some aspect of the immigrant situation.

What can we read this to mean? Regarding the organic type disorders one hypothesis quite commonly put forward in America was that the immigrant, when old, was on the average poorer than the native-born and not having so

many kinsfolk to take care of him was more likely to be hospitalised.

Odegaard doubted the importance of this factor, and we may do likewise, at least if we admit the right of the acute confusional states to appear in the organic type group. It is certainly true that the immigrant in Singapore is on the average poorer than the native-born, and that the number of lonely (6) old people among them is not small, but in our table it is not the senile cases which make so clear a difference between the two nativity groups as the confusional states, which arise from all ages. Certainly one cannot rule out income as a factor here entirely, for we will see in Chapter 8 that confusional states this type of disorder increase with decreasing economic status; but I doubt whether a 21% difference in income (which is what was found between the average immigrant and the average native-born Chinese in a sample survey) is going to make a 300% difference in rate.* Odegaard, after surveying a number (14) of other hypotheses, suggests that it is the greater mental and physical strain of immigrant life which is probably the main factor in the excess organic type disorder. In an earlier chapter I offered a similar hypothesis, suggesting that it might be the question of striving which differentiated so markedly the overseas Malaysian incidence of organic type disorder from the Peninsular Malay. However, neither of these hypotheses is really backed by evidence and in neither is the intervening mental process between situation and breakdown made clear.

An immigrant may have to face a number of strains. Regarding the extra physical work which he may have to do relative to the native, this can be investigated much better when we come to occupational differences and in any case I doubt its importance here. Mental strains, however, may be peculiar to the immigrant situation. There is, first, the strain of learning a

* See also discussion of income in Chapter 8.

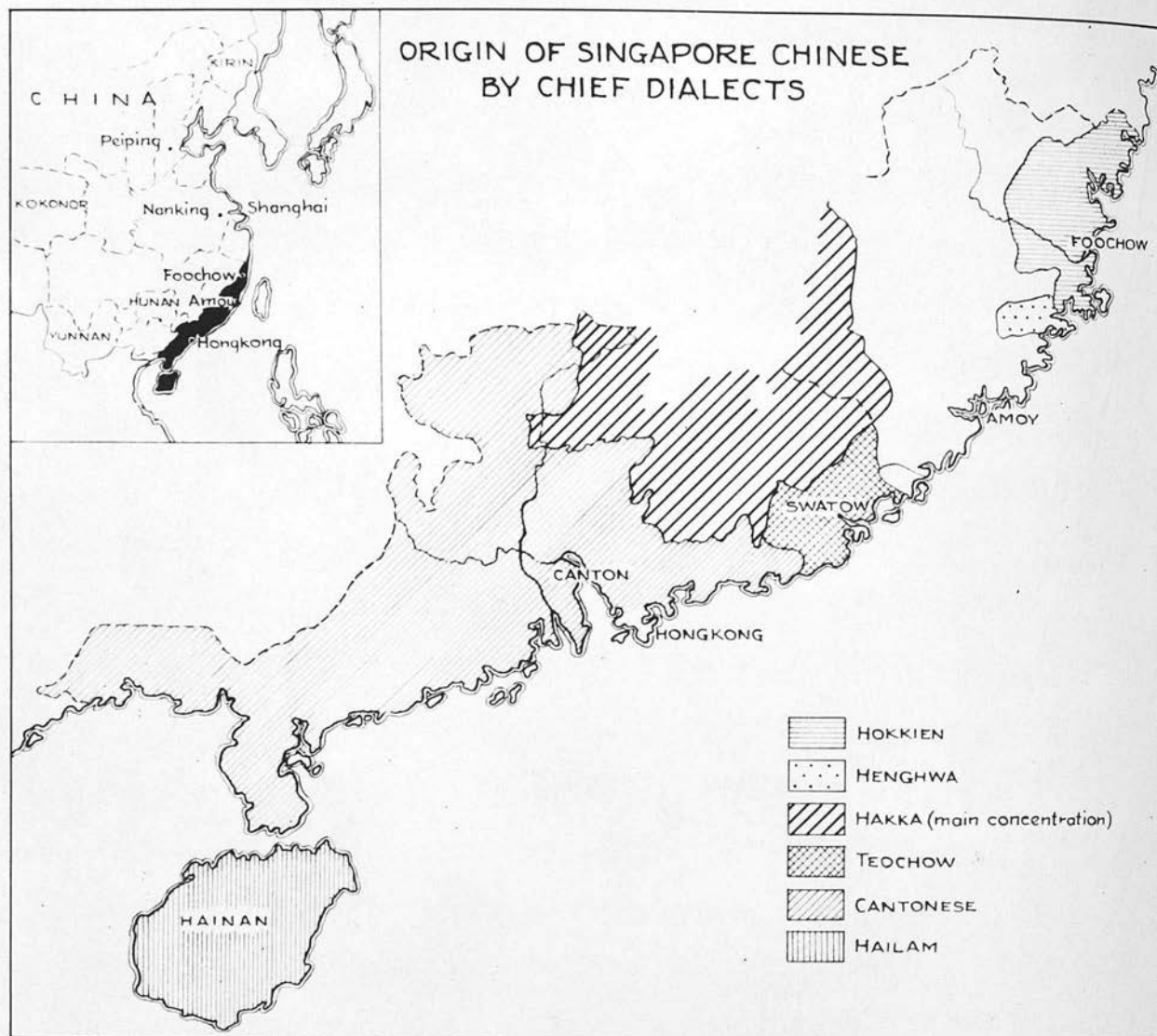


FIG. XVIII. Map of South China showing geographic distribution of main Dialectal Groups who have migrated to Singapore.

new language or of living among people with whom one cannot make oneself understood. Next there is the strain of learning new ways of doing things in one's work, and hence the extra effort required to compete in that work with those more familiar with local customs or techniques. This is not a strain exclusive to the immigrant, but it certainly touches him. Thirdly, we may consider the strain of relating to new people, even when one does have the language. Finally we may consider the loss of emotional supplies derived from the homestead or the homeland.

The barrier of language has sometimes been accused of causing mental breakdowns, but the evidence is not straightforward. Allers⁽¹⁾, Kino⁽⁷⁾, and others have reported specific cases where a difficulty or impossibility in communication in a foreign land appeared to be the main factor in the production of a psychosis, and this psychosis has usually been of a particular type, acute, atypical, confusional or paranoid in nature but showing rapid recovery. In the Singapore series there were five patients who seemed to belong to this category, Gurkha women following their soldier husbands to Malaya without knowing a word of any locally used language. Such breakdowns
xxxxxx/stopped, I was told, after the Army realised that special welfare arrangements were needed. More generally the case has also been made for a language factor by pointing out that English migrants to the United States have the lowest excess rates of any immigrant group, but here we run into difficulties, for the Irish, equally without the need for any linguistic adjustment, have quite a large foreign/native incidence differential. Clearly in the former case one is dealing with a rather rare condition only, while in the latter, the disentangling of linguistic from other cultural adjustment strains is virtually impossible, so that the matter remains doubtful. In Singapore, however, special conditions do permit us to take the matter a little further.

As mentioned in Chapter 2, the Chinese community in Singapore can be divided into a number of sub-groups according to the region from which they come and the dialect which they speak, (Fig. XVIII) these dialects being so markedly different that they should really be considered as languages, mutually unintelligible in most (5) (though not all) cases. With the Indians and Malaysians similar differences occur, though to a lesser extent. No one language has established itself as a lingua franca, although Malay comes nearest to it and although among the Chinese the Hokien and Cantonese dialects are used extensively by those to whom they are not native. To possess one or both of the latter is for a Chinese to be able to converse with most of one's Chinese neighbours, but to converse with nonChinese, as in a mixed suburb, either Malay or English is needed. There are thus five main languages used in Singapore - Malay, English, Hokien, Cantonese and Tamil. Possession of more than one enables a person to make contact with most of his neighbours, possession of one of them enables him to make contact with a considerable number, and possession of none of them makes contact difficult. On the basis of this distinction the same case sample was kindly investigated by Dr. Brown for me to yield the results shown in Table 41. We see

Age Group	Diagnostic Group	Chinese possessing					
		More than 1 popular language		1 popular language only		Other languages only	
		N.	%	N.	%	N.	%
15-34	Organic Type Psychoses	7	12%	8	11%	1	4%
	Functional Psychoses	46	80%	56	75%	24	86%
	Other Admissions	4	7%	11	14%	3	10%
	Sub-Total	57	99%	75	100%	28	100%
35+	Organic Type Psychoses	6	16%	15	26%	12	43%
	Functional Psychoses	28	74%	34	60%	15	54%
	Other Admissions	4	10%	8	14%	1	3%
	Sub-Total	38	100%	57	100%	28	100%
T O T A L		95		132		56	

TABLE 41. Sample Admissions to Singapore Mental Hospital, 1954, by Languages spoken, two age groups, and broad diagnostic category. Percentages to whole number only. (For definition of 'popular' language see text.)

first that a surprising percentage of patients did not know any of the main five languages so that I suspect, though cannot prove, that the incidence in this section of the population is unusually high. Next, we see that whereas there is no significant difference in the diagnostic distribution in the younger members of each category, in the older members a definite difference does appear. The organic type psychoses increase in proportion quite significantly (χ^2 6.11, $p=0.05$) as the language range becomes more limited*. Over a third of the older organic type admissions do not speak any of the popular languages, whereas almost two-thirds of the total Chinese in that age range (45+) are Hokien and Cantonese themselves. For the distribution of the organic type disorders to be representative, therefore, we would have to assume that none of the Chinese over 35 belonging to a lesser dialectal group had learnt another language; which is absurd.

The impression this gives is that being surrounded by neighbours with whom one has difficulty in speaking seems to increase the risk not only of what Kino calls the "Alien Paranoid Psychosis" (7) but also of the organic type disorders of later life; but there are other interpretations we must consider. First, what type of person is it who fails to learn one of the common languages of his neighbourhood? Lack of ability to communicate

* The apparent association of linguistic limitation with a declining proportion of organic type cases in the under-35 group is not statistically significant, but it appears a sufficiently suspicious trend for an explanation to be desirable. My hypothesis is that in this age group what we have is not so much a decline in the organic type cases as a slight increase in the functional ones (which, of course, would show the same result). We will see later that a similar division occurs between the sexes with regard to the minority group effect, the males showing, like the older generation in Table 41, increased organic type disorder while the females show increased functional. However, the difference within the under-35 groups is too small to build on.

suggests personal defect as much as environmental strain. Again, are the economic circumstances of the groups not likely to differ, lack of linguistic attainments being associated with lack of spare time for learning? Finally, language is only one barrier such a person has to face, but other cultural barriers may be of greater importance even while the language difficulty remains. The Gurkha women I mentioned earlier all fell sick in the one year; in later years similar women arrived still with no common language and did not fall sick, the differentiating factor being apparently not the acquisition of a common tongue but the improvement of quite separate elements in the social environment. Whether the same would apply to the excess of the organic type disorders shown in Table 41 we cannot say, but it seems probable. Nevertheless, although language cannot be considered a 'pure' factor we are a little further, I think, in recognising its role and hence in partly disentangling one element of the immigration complex.

The next strain which was mentioned as facing the immigrant was that of learning to please one's new neighbours and hence of finding a market for one's abilities in competition with others who can appeal to these neighbours more easily. The problem I refer to here is primarily that of earning one's living in a freely competitive situation, but the question of obtaining sufficient emotional gratification from such neighbours is a parallel matter. I have no means of measuring these difficulties in specifically immigrant groups, but if we shift the focus from immigrants to minorities generally then a way does seem open. The same Chinese dialectal groups whom we have just been considering can also be thought of as minorities, some of considerable size and power, others quite small. Coming from

different parts of China (Fig. XVIII) and remaining considerably attached to their own local traditions and their own society, they all face, in relation to the others, something of the foreign-ness which minorities experience in relation to other peoples anywhere, even when the linguistic barrier is bridged. At the same time there are no important cultural differences between them, or differences of education, occupational preference, etc., such as confuse the issue when we seek to study minorities anywhere else in the world. By examining the patterns of mental disorder among them, therefore, we may be able to arrive at a closer assessment of the relationship between the above factor and mental health than is possible under most other conditions.

On first inspection no particular relation is apparent. There are, as Table 15 showed, a number of variations going beyond chance limits, but these appear to be related to specific qualities of individual groups, such as the peculiar relation of the Hakka people to other Chinese (as discussed earlier) or the tendency of Cantonese women to seek outside employment. When we treat each diagnostic category separately by sex and include suicide, however, highly significant inverse correlations appear in three cases (with a doubtfully significant correlation in a fourth) between rate of mental hospitalisation and absolute size of the group. (Fig. XIX). In these instances, but in these instances alone, the smaller one's minority group the greater is the risk of being hospitalised. Each type of disorder affects only one sex in this way, showing no trend whatever in the other sex. Further, suicide is also increased with decreasing group size, but again for one sex only.

These experiences, I think, are probably common to minorities anywhere and hence predictable

(in a previous paper I showed that this minority effect could be demonstrated in some of Durkheim's suicide data, and for mental disorder the same is implied in some of Lombroso's findings.) but with the Chinese they are not acquainted with all the members of his dialectal group. Hence one's first inclination may be to suspect that this size is an accidental or secondary concomitant of some more relevant factor. However, I have explored all other possibly related factors on which data were available, namely age distribution, sex ratio, occupation, religion, nativity, year of immigration and family structure and none show the same type of trend there is some family link or specific tie. When I asked some Chinese acquaintances about the effect of dialect as a barrier the answer was that the language was easily learnt, but the clumsiness was the real handicap, not. The degree to which these dialects differ from each other varies considerably and the smallest groups are not necessarily those with greatest linguistic difficulties (5). I feel justified, therefore, in making a case for minority group size as a factor in itself. It operates, in my opinion, by reducing or dispersing the number of individuals with whom one has easy

cultural and economic access. For the man seeking work or business this

But there is much more to these findings than just that single means that if he belongs to a majority group - the Hokien, for instance - conclusion, for we have not discussed why the male is affected in one way and he is likely to have many potential contacts and knows, through their the female in quite another, and why certain other disorders are not influenced common cultural background, more precisely what the other's expectations at all, in this situation. One part of my hypothesis here has already been and reactions are, whereas if he has been brought up in a minority he has suggested in the contrast made in the last paragraph between the man's needs fewer potential contacts and vis-a-vis the majority he is less able to sense and the woman's, at least where the woman usually stays at home. As we the meaning behind a phrase or allow for parochial prejudices. For the discussed with regard to the Europeans, the male who goes out to work possesses woman in her house it means that contact with neighbours needs more effort, a larger circle of daily acquaintances and his work skills or the work situation effort to adjust culturally to their expectations and customs in order to create a concrete basis onto which wider social interaction can be built. get from them the social responses she requires. These experiences, I the man, in other words, has a solid start for knowing what is required of think, are probably common to minorities anywhere and hence predictable him both to gain economic rewards and to gain social (emotional) ones, and his

(in a previous paper I showed that this minority effect could be demonstrated in some of Durkheim's suicide data, and for mental disorder the same is implied in some of Lemert's findings ⁽⁸⁾), but with the Chinese they are intensified by the clannishness and limitation of loyalties and interests which are a part of their general culture. In social contacts the Chinese are brought up to depend very much on person-to-person claims and contacts, or on chains of such contacts. Traditionally, for instance, they will not buy at the cheapest or most efficient merchant so much as from the one with whom there is some family link or specific tie. When I asked some Chinese acquaintances about the effect of dialect as a barrier the answer was that the language was easily learnt, but the clannishness was the real handicap. Hence we now find that while possession of one of the commoner languages is desirable for the avoidance of an organic type mental disorder in an immigrant situation, it may be not so much the inability to converse easily with others as the 'being different' which is the handicap leading to the eventual disorder.

But there is much more to these findings than just that single conclusion, for we have not discussed why the male is affected in one way and the female in quite another, and why certain other disorders are not influenced at all, in this situation. One part of my hypothesis here has already been suggested in the contrast made in the last paragraph between the man's needs and the woman's, at least where the woman usually stays at home. As we discussed with regard to the Europeans, the male who goes out to work possesses a larger circle of daily acquaintances and his work skills or the work situation create a concrete basis onto which wider social interaction can be built. The man, in other words, has a solid start for knowing what is required of him both to gain economic rewards and to gain social (emotional) ones, and his

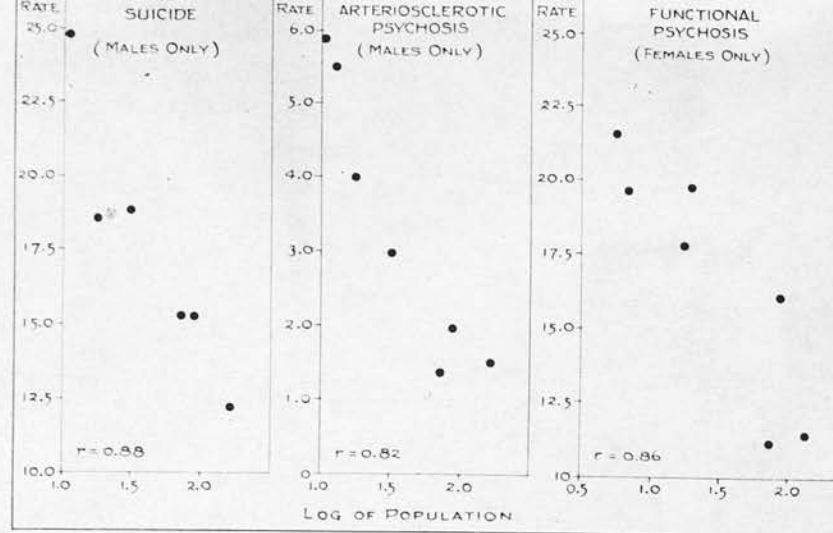


FIG. XIX. Incidence Rates for Suicide, Arteriosclerotic Psychosis, and Functional Psychoses within different Chinese Dialectal Groups, as compared with their respective numbers in the Singapore Population; with correlation coefficients, Population strengths as at 1947 Census; suicide data for 1946-52, mental disorder data for 1950-54.

Groups in order of size (males) are: Hokien, Teochui, Cantonese, Hailanese, Hakka (or Khek), Hokchui, Hengwha and others. In the female population the order of the Teochui and Cantonese is reversed; for the suicide rates the Hengwha were not treated separately.

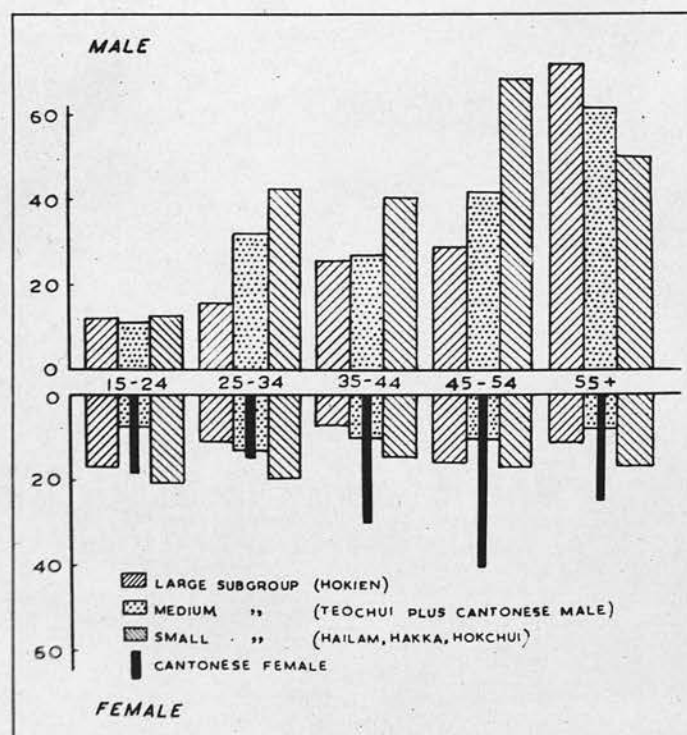


FIG. XX. Age-specific Suicide rates for Chinese Dialectal groups of different size, showing reversal of association with group size in over-55 male categories, (Copied from previous paper (12)). Note: Cantonese females are treated separately because of their atypical occupational tendencies. Compare with Table 15.

main trouble lies in effecting the necessary mental output, especially if competition or clannishness imposes additional burdens. The woman who stays at home, however, has usually a much smaller circle of daily acquaintances and possesses in her childhood-acquired ideas about domestic management a much less secure foundation from which to build a community of interests with her neighbours. Hence she is more likely to fail to establish the necessary contacts, in which case she will be emotionally deprived as were the Indian migrant women whom we discussed, or she must adjust childhood-acquired patterns of thinking without having any clear idea either of the way to do this or of the result to be aimed at, a type of frustration which I suggest may lead to a schizophrenic type of break if it fails. That is one hypothesis for ~~why we get~~ the minority group men showing an excess of only an organic type of disorder whereas the women show an excess of the functional types. One might still go on and ask, however, why only one of the organic type disorders shows this correlation. Why does senile dementia not show the same trend, or the acute confusional states? Well, the acute confusional states do show ^{a similar tendency} ~~the same trend~~, though P. is greater than the conventional 0.05 limit, but the senile group do not at all, and this is of considerable interest. In a previous paper ⁽¹²⁾ I showed, with regard to suicide (reproduced in Fig XX), that whereas the minorities had higher male rates than the majorities up to the age of 55, above that age the trend was reversed, with the majorities now having the highest rate. The explanation, I think, is that in older people economic striving largely ceases, their circle of acquaintances narrows, and what matters now is not the width of these acquaintanceships but their intensity or supportiveness. The special disadvantages of small minorities do not affect them, therefore, whereas the

greater cohesiveness which small groups often show will be in their favour. At any rate we find that the Hokien and Cantonese, which are large and rich communities with their own small hospitals, nevertheless send a greater proportion of their elderly to the mental hospital than do the smaller groups. As nearly always, situations which we tend to view as disadvantageous carry some advantages also.

This last point has a wider relevance with respect to the immigrant/native-born comparison in rates which impressed us at the beginning of this chapter. Before returning to that main question, however, we might as well consider the few other bits of information I have been able to educe about the immigrant rates. First, the question of the period elapsing between first arrival in the country and entrance to the mental hospital.

If one considers the act or experiences of migration to be a factor in mental disorder, then some relationship might be expected to be found between the date of arrival in the new country and the time of mental breakdown. Several writers have commented on the euphoria which is found during the first months and the depression which follows this, and one might expect the latter to be reflected in hospital data. Similarly, if one believes in the tendency of schizoid personalities to migrate, then a clumping of cases in the early years after arrival is also to be expected. Yet data from the United States are curiously unclear in this respect. Odegard states quite confidently that "The endogenous psychoses do not show any particular tendency to commence within the first five years of the patient's stay in America". Dayton does not commit himself, but his data do suggest an excess in the early years, although the form in which he presents it makes the conclusion unclear. (From his Graph No. 9 and other

* Data are not given in Goh's report but are derived from fresh analyses of survey reports kindly lent to me.

figures it would appear that in 1917 only about 5% of Massachusetts's immigrant population had arrived within the previous five years, whereas one finds from his Graph No. 5 that 10% of male and 6% of female patients had arrived in that period, the difference being especially noticeable for the (4) 20-29 group .) Malzberg has apparently not investigated this point specifically for immigrants from overseas, but for migrants within the country a most marked emphasis on migration within the last few years, especially within the last year, prior to admission appears (10), although in this case it is difficult to estimate the importance of New York's more extensive psychiatric facilities attracting patients from elsewhere. It is possible that the question of an increasingly strict pre-immigration medical examination may account for the differences in these findings.

For Singapore the relevant data are summarised in Fig. XXI where the Chinese Immigrant sections of the 1954 case sample and the 1953 Social Survey are compared in terms of length of residence in the country. The Social Survey sample*, covering workers only, is under-represented at the two extremes of the age range, i.e. for students and retired persons, but otherwise accords well with estimates I made separately from census and post-census immigration data. Accepting such distribution as representative, then, one finds that there is a definite excess of cases in the two groups who have been the shortest time in the country. Whereas only about 1% of the Chinese adult immigrants had arrived since 1949, 7% of the Chinese immigrant cases in the patient sample had. Among the other races the same impression is given, although there I cannot compare so exactly. Nine out of 24 immigrant Indians in the sample had arrived in the country for the first time

* Data are not given in Goh's report but are derived from fresh analyses of survey reports kindly lent to me.

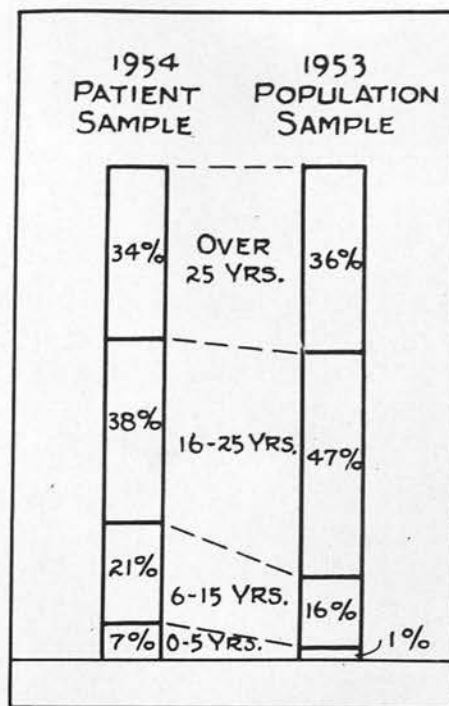


FIG. XXI. Percentage Distribution of Chinese mental hospital and Population samples by Duration of Residence in Singapore, immigrants only.

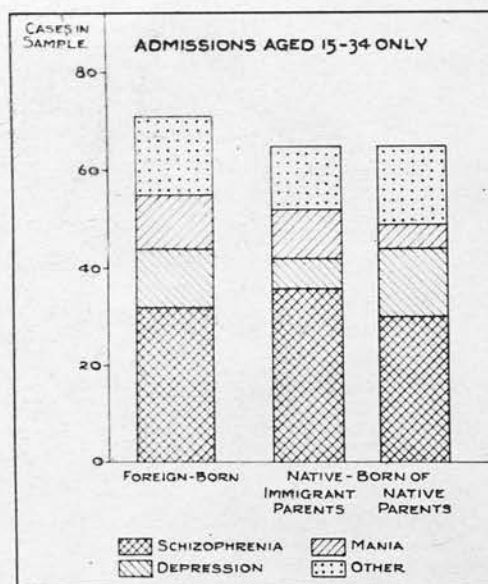


FIG. XXII. Immigrant and two local-born groups of Singapore Mental Patients, aged 15-34 only, by main categories of disorder.

immigrant within the previous five years, and one out of three/Malaysians. It would therefore seem indubitable that the act or early experiences of migration had some relationship to mental hospitalisation. However, this fact, on closer examination, does not favour the pre-schizophrenic migrant hypothesis as one might have expected it to do, for schizophrenia does not predominate in the recent immigrant group. On the contrary, almost half of these cases were manic-depressives who had arrived for the first time as young adults. Schizophrenia, on the contrary, is found to occur mainly in the smaller group of migrants who had arrived as juveniles and for whom, therefore, the decision to migrate must have been taken by others. Presumably, most of the latter cases must have accompanied their parents or come to join them, the parents themselves being immigrants. Hence they might be considered to have almost as much mental kinship to the 'native-born of foreign-born' parents' group as to the immigrant group proper, and this is a point of importance in our understanding of the whole picture.

Hitherto we have been comparing only the immigrants and the non-immigrants, not considering whether the latter were of native parentage or not. In the United States, however, the question of parentage has proved to be important, as my initial summary of the findings there showed. In Singapore the census data do not permit the calculation of rates for the two groups of local-born, and I possess no other general population data in which this is given, but a simple comparison of the types of disorder in each group, as shown in Fig. XXII, can still be informative, especially if we remember that the overall immigrant incidence rate was apparently lower than that of the joint local-born group. We see that the highest proportionate (and probably actual) incidence of schizophrenia is in the local-born-of-immigrant-parentage group. For the other local-born group what is impressive

tions predispose first to a reactive -tive disorder associated with the loss of social contacts and the emotional supplies they offer, and later to is the high proportion of depression, the difference being most striking in the 15-24 age group, as following figures show.

Local-born of Immigrant parents	22 schizophrenia and 1 depression;
Local-born of Local parents	14 schizophrenia and 8 depressions;
$\text{Chi}^2 = 7.2, p. = 0.01$	

A further point of interest not shown in Fig. XXII is that within our small sample of 326 cases involutional melancholia and reactive depressions occurred in immigrants only, not in either of the local-born groups.

Let us now return and attempt to assess what this chapter has shown. We have found that both in Singapore and in the United States, immigrants tend to have more organic type mental disorder than the local-born. This excess has been shown to be paralleled, and probably associated with, a relative excess of the same disorders in people not possessing the necessary languages for communicating with a majority of their neighbours, and a similar picture has been found in minority group males of working age who (whether immigrants or not and whether multilingual or not) face extra cultural and out-group difficulties in making a living. A further probable agreement between the United States and Singapore consists of the finding that the first years after migration show a heightened mental hospitalisation rate as compared with later years, and that the manic-depressive psychoses, possibly reactive, tend to be more prominent in these first years than later*. It seems reasonable to suggest, therefore, that the experiences of migration will, in most situations, be a period of cultural insecurity and loss of confidence in these formative years.

* This finding was not apparent in the earlier studies, but has come out in later ones, e.g. Malzberg's study of inter-state migration(10) and Lemert's of the United States-Canadian borderland,(8) a fact which supports my general thesis here, since it is in these later studies that cultural differences play the least role, so that pressure to conform is likely to be felt less than the isolation of the metropolis or of a sparsely populated rural problem area. See also (5a).

tions predispose first to a reactive affective disorder associated with the loss of social contacts and the emotional supplies they offer, and later to an arteriosclerotic type of psychosis as a result of the extra striving which difficulties in competition for livelihood or for other sorts of clearly seen goals involve. (Although I can envisage immigrant situations where livelihood and some other types of need are assured, and in which the tendency to arteriosclerotic psychosis might be absent.) Beyond that point, however, the United States and Singapore findings diverge. In the United States two prominent features of immigrant patterns of mental disorder are schizophrenia and the senile psychoses, whereas in Singapore the former actually appears lower than in the local-born group while the latter is not clearly affected; the net result being that whereas in the United States immigrants had a higher age-standardised rate of mental hospitalisation than natives, in Singapore the reverse appears to be true. Why is this?

In Singapore we noted that schizophrenia appeared most prominently in the local-born offspring of immigrants and in those immigrants who had arrived while still adolescents or younger. When we consider the newcomer vis-à-vis the local-born there are, I suggested, advantages as well as disadvantages to consider. One of these advantages is that the immigrant who first arrives in adult life has usually spent his childhood in an old culture with firmly established values, whereas the native of a young country or of the immigrant, often transitional, section of an old city does not have the same cultural security and confidence in these formative years. In my opinion, therefore, the local-born Singaporean is likely at the present time to have a less secure grounding in childhood than did his immigrant forefather, and when he is later faced with the pressures of adult life he may have a less solid core of beliefs and habits to fall back on. That is one

reason why we can find more mental disorder generally and more schizophrenia in particular in those who grew up partly or wholly in Singapore than in those who grew up in an old country and migrated only as adults. But this is only a part of the story, for in the United States of America, despite the disadvantage I am attributing to them, the offspring of immigrants still showed a lower total and lower schizophrenia rate than the immigrants themselves. The difference here rests, I think, in the amount of social pressure which the immigrant must face in the two locations. As I tried to explain in the first chapter, the immigrant to Singapore was traditionally left alone by other groups, neither pressed to assimilate to a different culture nor helped by strangers to feel at home. More than in the United States, on the other hand, he was likely to have contacts from his own clan or village who still looked to the culture of their homeland and whose responsibilities towards him were similar to what we would think of within a family. Pressure to change basic habits and beliefs was therefore slight and support for these beliefs and patterns was ample and socially approved. That was never the case in the United States of America, at least since the Declaration of Independence.

(White)

There the individual/newcomer was expected to become American, was given help to that end even by people with whom he had had no previous contact, and was regarded with suspicion when he did not conform. At the same time ties with family or local homeland group were looser and any attempt by a minority, e.g. the Jews, to maintain traditional beliefs which were different from their neighbours was socially disapproved. For schizophrenia the relevance of this difference lies in the fact that pressure to conform to expectations which are not made explicit (no culture's are), and which when viewed rationally may then he was running into, and hence at that age be less liable to mental

(2)
contain contradictory elements, is according to one theory an important predisposing factor, especially when experienced in childhood but also when met with in later life. However, the difference may also be relevant to the senile psychoses, that other category so prominent in United States immigrants but not in Singapore. I have suggested that the presumed greater cohesion of Singapore minorities is one factor here, but the demand for cultural change is another. Roberts and Myers, in a discussion of the recent New Haven Study material (16), suggest that the excess of senile disorders in the immigrant section may be because senescence affects late learnt skills so that the immigrant patient will forget the American culture patterns while still retaining the earlier learnt European ones, and thus impress his neighbours as queer. In Singapore such selective forgetting would not matter.

With this last question of social expectations we are back to the need for knowing the specific cultural situation, for neither the Singapore attitude towards the immigrant in this respect nor the American can properly be considered, I think, the 'natural' one in relation to which the other is a rare deviant. If we consider the French attitude towards their Russian and Armenian immigrants, or the Brazilian towards the Germans, or the Syrian towards the Palestinian we find a great variety of pressures and rewards with which the newcomer is faced, and none of these patterns adheres particularly to the United States or the Singapore model. Furthermore, the question of the originating as well as of the receiving culture comes in here. In Chapter 2 it was suggested that the young adult Chinese migrant might, thanks to the cultural pressures on his age group, be escaping from more demands than he was running into, and hence at that age be less liable to mental

breakdown in a new country than in his traditional milieu. It is a point which is relevant to the Singapore immigrant rates, especially since the traditional Chinese culture patterns tend to be rebuilt after a generation or two. But again, we cannot say that this is any more an "unnatural" situation than any other. If one thinks of the varieties of European background from which American immigrants came it will be clear that in some cases youth had heavy demands put on it and in others had light ones. Some of the relationships between the experiences of migration and mental disorder which were supposed to have general validity are thus seen probably to be quite local phenomena. In other cases - the difference in sex ratios between the various nativity group rates, for instance - the association with culture or with other extraneous factors such as the demand for female labour seemed so obvious that I have not thought it worth while to explore whether any general element could be found. Nevertheless, certain potential generalisations have appeared from the comparisons in this chapter, generalisations not likely to be easily affected by cultural differences, and that was our aim.

adverse physical influences with which the method was associated in medicine did not easily lead themselves to the study of the functional mental disorders. Hence, medicine, despite its familiarity with the technique and despite occasional observations that mental disorder did have a differential geographic distribution, had no theoretical basis from which the two could be meaningfully connected. Sociology, on the other hand, did have the theoretical basis, thanks to Durkheim's *suicide*, Burgess's theories of social process in urban development, and Parson's concept of social isolation, not only to connect geography and mental disorder, but even to predict what form the relationship would take. The broad findings which that theory had apparently foreseen were, after Parson and Burgess's pioneer work⁽⁷⁾, supported

Chapter 7

URBAN DISTRIBUTION

In discussing mental disorder and migration, we found that although the relationship had been quite elaborately explored in the past, theoretical interpretations of the phenomena were relatively superficial and, as we saw, not very satisfactory. One might excuse this state of affairs by saying that the subject had forced itself on researcher's attention before our knowledge or conceptualisation of the basic social phenomena were clear. In the present chapter, however, we are dealing with a relationship which was not forced on researchers by the clamour of the facts but rather was sought out as a means of extending and testing a pre-existing theory of urban organisation. Presumably, therefore, the state of theory on the matter should be adequately advanced; yet this is not so.

Interest in the question came from sociology. Historically, the geographic pinpointing of patients' dwellings was one of the earliest and best used of epidemiological weapons, but the concepts of contagion and of adverse physical influences with which the method was associated in medicine did not easily lend themselves to the study of the functional mental disorders. Hence, medicine, despite its familiarity with the technique and despite occasional observations that mental disorder did have a differential geographic distribution, had no theoretical basis from which the two could be meaningfully connected. Sociology, on the other hand, did have the theoretical basis, thanks to Durkheim's anomie, Burgess's theories of social process in urban development, and Faris's concept of social isolation, not only to connect geography and mental disorder, but even to predict what form the relationship would take. The broad findings which that theory had apparently foreseen were, after Faris and Dunham's pioneer work⁽⁷⁾, supported

d) Areas with the highest mental hospitalisation rates (31,27,12,22a,2) from at least another dozen cities in the United States and suicide (14) as well as from Bristol, London (for suicides only) Paris, and Honolulu (30).

Yet the remarkable thing is that we find an increasing reluctance by the authors of these studies to espouse either the original theories or any comprehensive theory whatever. There is considerable unanimity about the validity and general applicability of empirical results but relatively little agreement, or even individual boldness, in the matter of explaining them. Hence, whereas today one might have hoped for a well-

formed theory which the Singapore material could be used to enlarge on or to confirm, there is instead only a well-established body of empirical findings. The reason for this has been not so much the initial attacks by medical men on the sociological concepts as a dissatisfaction among sociologists themselves with the original theories.

The initial findings of Faris and Dunham in Chicago and Providence were not all confirmed by subsequent studies, but the core of their findings did obtain support and there are some further results which can be said to have obtained general credence. Together they may be summarised as follows:

a) High rates of mental hospitalisation concentrate at or near the centre of cities and low rates consistently occur at the periphery, the differences being highly non-random (7,31).

b) The distribution of schizophrenic admissions follows a very similar pattern to that of all admissions, whereas the manic-depressive group either do not vary beyond chance expectation or fail to conform to the concentric zonal pattern (7,31).

c) Where cities show a 'zone of transition' or 'zone of deterioration' then schizophrenia and certain other categories, e.g., alcoholic psychosis, have higher rates there (7,21,31).

* Summarising discussions can be found in 8, 31, 9, 4.

The main theoretical debates have centred round the question of mobility and on whether the variations discovered apply to the whole population

- d) Areas with the highest mental hospitalisation rates tend to be those which show high rates of divorce, juvenile delinquency, adult crime, and suicide - the so-called indices of social disorganisation (8,25,22a) - and vice versa.
- e) Rates of mental hospitalisation usually correlate with percentage of lodging-house accommodation, percentage 5-year mobility, and inversely with percentage owning own homes, thus suggesting an inverse correlation with 'rootedness' (9,33).
- f) Rates tend to be higher in areas of high population density and areas with much dilapidation (13a,30,31).
- g) People living in areas not mainly populated by members of their own ethnic or cultural group tend to show higher rates either than the majority in the same tracts or than tracts where they themselves are in the majority (6,8).

Of these general findings, the concentric zoning, with low rates at the periphery and high at the centre, is frequently not found in the form predicted (4,31) but this is of the least importance since probably few cities conform to Burgess's ideal pattern of concentric development (26) and if one allows for irregularities or lags in historic growth and a consequent eccentric core, then wider agreement is reached. In some cities, however, Paris, for instance, it is the 'zone of transition' rather than the core inside that zone which has the highest rates (21). The correlation between mental hospitalisation rates and the other 'indices of social disorganisation,' again, has been more often suggested than accurately measured, and it is recognised that it is not to be found in all circumstances; but the general feeling seems to be that it would be found if other factors such as ethnic distribution could be controlled. Mobility or rootedness has been well studied, though not always with consistent results, the data on this point merging with those on migration referred to in the previous chapter. Points (f) and (g), on the other hand, have not been much investigated, the original findings being broadly accepted.

The main theoretical debates have centred round the question of mobility and on whether the variations discovered apply to the whole population

of an area or only to specific groups. Faris definitely believed that slum culture-conflict. In one sense, (5) the range is quite slight in relation to the full variety of cities known to geographers and if a greater life was conducive to schizophrenia but Gerald and Houston showed that in such areas the higher rates are to be found only in the 'single -person variety had been explored a realisation (10) of the need for fuller descriptions household' section of the population, not the family-living section might have been easier. Singapore is a very different city, not only in which proved to have no higher rates than family groups elsewhere in the city. Its component cultures but as a social or (15) It is therefore all the This has been confirmed by Hare in Bristol and constitutes a blow to the easier to remember to look for differences in background when we look at original social disorganisation theory, not wholly answered by the belated differences in mental hospitalisation patterns. Our aim will therefore be not realisation that so-called disorganised areas might have a quite complex or merely to note whether agreement or disagreement with Western findings exists, organisation of their own not immediately apparent to the outside observer. but rather to discern in what ways they exist, and why.

On the other hand, Belknap and Jaco have shown that areas with low schizophrasia rates scored high on an independent measure of social cohesion while The proper calculation of mental disorder rates for different areas high schizophrenia rate areas scored low (2), suggesting that the rival schizophrasia drift hypothesis (discussed in the last chapters) is not in itself sufficient. Other studies have also challenged the drift hypothesis (18) and when different ecological areas may be confused within the one tract, whereas the situation is that at the present time it is not possible to bring these conflicting findings into a single framework, one important reason being that regarding the proportion of children to adults, the proportion of females they have been produced from different locations but the social ways in which to males, and the proportion of families to single persons. Moreover, the these locations differ are not told to us. There is an assumption that a census data, and does not need further definition or description; city is a city/ workers provide us with the bare data of their enquiry whereas only a very limited stretch of time, for while one can extrapolate many sorts if they would tell us more about their city we might be able to understand of data for interdecennial years, such predictions are not designed to allow why their findings differ from someone else's.

That the cities explored have had similarities as well as differences epidemiologists are fortunate in having age and various other particulars is indisputable. They are nearly all industrialised, belonging to cultures where tabulated for quite small tracts, and this is at least a part of the reason physical mobility plays an essential part in the economy, where stratification why we have had so many such studies from that country, and so far from else into classes and special interest groups is well developed, and where cultural where, (see, for instance, the limitations which inadequacy of census data diversity is otherwise discouraged on the assumption that it must lead to and on Meyer-Massad's interesting study). Even in the United States, however,

culture-conflict. In one sense, therefore, the range is quite slight in relation to the full variety of cities known to geographers and if a greater variety had been explored a realisation of the need for fuller descriptions might have been easier (32). Singapore is a very different city, not only in its component cultures but as a social organism. It is therefore all the easier to remember to look for differences in background when we look at differences in mental hospitalisation patterns. Our aim will therefore be not merely to note whether agreement or disagreement with Western findings exists, but rather to discern in what ways they exist, and why.

Technique of Approach

The proper calculation of mental disorder rates for different areas of a city depends both on the suitability of the existing census data (23) and on a sufficiency of detail. If the census or survey tracts are too broad, then different ecological areas may be confused within the one tract, whereas if the tracts are small considerable variations can exist from one to another regarding the proportion of children to adults, the proportion of females to males, and the proportion of families to single persons. Moreover, the census data, however complete, can be accepted in many cases as useful over only a very limited stretch of time, for, while one can extrapolate many sorts of data for intercensal years, such predictions are not designed to allow for slum-clearance, the development of suburbs, etc. In the United States, epidemiologists are fortunate in having age and various other particulars tabulated for quite small tracts, and this is at least a part of the reason why we have had so many such studies from that country, and so few from elsewhere, (see, for instance, the limitations which inadequacy of census data put on Mayer-Massé's interesting study) (21). Even in the United States, however,

studies done since 1940 must proceed with caution unless closely around a census year, owing to the rapid change in spacial distribution of many cities, though studies done in the 1930's when building was relatively stagnant could be treated more liberally.

In Singapore, the situation in relation to census data was good but not fully satisfactory. Tracts were of a suitable size except in a few cases and data on sex and ethnic group were given, but age distribution was not recorded for such small units, matters like occupation of inhabitants and household structure were naturally not given, and five rather active years had passed between that count and the mid-year of our present study. Fortunately, however, there occurred at this time the two social surveys already referred to, which, while not as accurate as a census would have been, make up in large part for the above deficiencies. In connection with the

(20)
production of a 'Master Plan' for Singapore's future development the planning authority, the Singapore Improvement Trust (hereafter called the S. I. T.), conducted a house-to-house survey of many areas of the city and produced estimates of population for the remainder. Their estimates were either by census tract or by their own 'planning districts' (from which census tract figures are fairly easy to estimate) and these are the estimates of total population which will be used in this chapter. Concurrently, the Department of Social Welfare was conducting a Survey of Housing and Family Incomes from a stratified sample of dwellings which aimed at covering 4% of

(11)
the urban population. The technique used for obtaining this latter sample was a complicated and unusual one in order to meet special local problems, but it seems to have been fairly successful. What is more important from our point of view was that an income ceiling was then applied, excluding the upper 17% of the population. How this exclusion may have affected the data which I have derived from this survey it is difficult to say, but

I have not used categories where it seemed likely to be important. Another disadvantage is that the sample has not been recorded by census tract - which would in any case have been too small for a 4% sample - but by 'ward', each of the six wards being composed of fairly homogenous tracts. From this survey has been derived the estimates of adult percentages, and various other data which will be credited in their place. In both surveys, I was fortunate enough to be allowed, in the one case access to the original records, in the other, permission to do fresh tabulations from the original punch cards. Since this chapter depends considerably on the results of these surveys and the accuracy with which they were performed, the interested reader should turn to Mr. Goh Keng Swee's monograph and to the third Master Plan volume for details of methods used there.

Of the 4,623 admissions on which this study is based, 3,057 gave residential addresses within the city boundaries. The remainder had as their given address locations outside the city, or police stations, or business firms, or gave no address at all. Where a case had more than one admission to hospital during the period, giving a different address each time, then each of these was counted, but if such a case was recorded from the same residence each time then that address was counted only once. Table 42 gives the cases, estimated adult population, and rates for 41 census tracts, grouped into the six 'Wards' used in the Social Welfare survey. The cases were allocated by pin-pointing on large-scale maps instead of working from a directory, since the numbering of Singapore streets is not always regular or predictable.

The estimates of adult population were arrived at by applying to the S. I. T. tract estimates the percentage of adults for the enclosing 'ward', as derived from the Social Welfare survey. In certain suburban areas tracts have been grouped together where S. I. T. 'planning districts' proved difficult to divide into specific Mukims (mukim is the Malay word for a parish or district and is unit of census grouping for the rural and semi-rural parts), and where changes since the last census had been too great for individual estimates to be satisfactory.

Social Survey Ward(b)	Census Tract	Estimated 1953 Adult Population(a)	Cases 1950-54	R A T E S			
				Total Admiss.	Schizo phrenia	Manic Depress.	Organic Psychoses
I	3	15,490	137	88.5	20.7	27.8	20.7
	5	16,170	120	74.2	23.5	14.2	25.8
	6	13,200	86	65.2	18.9	16.7	18.9
	23	15,700	115	73.2	17.2	18.5	26.8
		60,560	458	75.6	20.1	19.3	23.1
II	1	3,840	36(c)	93.8	46.9	15.6	20.8
	2	5,390	35	65.0	24.1	9.3	18.6
	4	7,840	63	80.3	40.8	10.2	19.1
	7	4,920	50	101.6	32.5	22.4	32.5
	8	11,430	92	80.5	26.2	12.3	25.4
	10	6,000	34	56.7	16.7	10.0	16.7
	11	9,350	136	145.5	37.4	41.7	39.6
	30	70	1				
II		48,840	447	91.5	31.5	18.2	25.6
III	12	15,580	130	83.4	28.9	16.0	25.0
	13	14,080	118	83.8	24.9	21.6	25.0
	14	4,390	45	102.5	31.9	20.5	31.9
	15	9,500	53	55.8	17.9	11.6	20.0
	16	13,930	121	86.9	21.5	19.4	33.7
	17	16,060	154	95.9	26.2	24.3	26.2
		73,540	621	84.5	24.9	19.2	26.4
IV	M23	5,560	37	66.0			
	M24	29,500	190	64.4	23.3	18.5	16.3
	M25	20,700	133	64.3			
	M26, M27, M28	26,800	218	81.3	27.3	17.5	17.4
		82,560	578	70.0	25.2	17.9	17.0
V	18	16,700	118	70.7	26.4	18.6	18.6
	28	3,100	39	125.8	41.9	35.5	29.0
	29	3,300	32	97.0	21.0	30.0	27.0
	M17, M18, M22	28,500	198	69.4	25.6	16.5	16.3
		51,600	387	74.8	26.4	19.1	18.3
VI	9	3,500	30	85.7	20.0	22.9	31.4
	19	5,160	56	108.6	31.0	23.2	33.0
	20	5,070	37	73.0	29.6	7.9	13.8
	21	6,660	44	66.1	18.0	18.0	18.0
	22	6,800	(37) ^d	(54.4)	(22.0)	(8.8)	(13.2)
	25	3,250	11	33.9			
	26	1,950	9	46.2	17.2	18.5	26.8
	27	5,000	38	76.0	30.0	10.0	16.0
	M 1, 24	59,500	358	60.4	24.7	15.3	16.6
	M 2	4,400	27	61.4	22.7	11.3	15.9
		101,090	647	64.0	24.9	14.5	17.6

TABLE 42. Singapore Mental Hospitalisation by Census Tract, 1950-54.

Notes: a) Aged 18 and above; for method of estimation see text. b) For description see Fig. XXIII and Goh Keng Swee's monograph (11). c) Proportion of adults to children in tract 1 is probably higher than my method of estimation shows, so that actual rates are probably lower than those shown. d) City gaol occupies large part of this tract. All cases giving gaol as address were excluded, but this has probably meant excluding normal residents as well as prisoners. Hence rates probably too low.

Results

The first thing to note from Table 42 is that the range of variation is quite small. This, of course, depends on the size of the tracts and number of cases studied, since chance variation becomes wider with the smaller figures. Nevertheless it is worth noting that whereas in the American studies (Table 43) the highest rate is never less than six times the lowest and

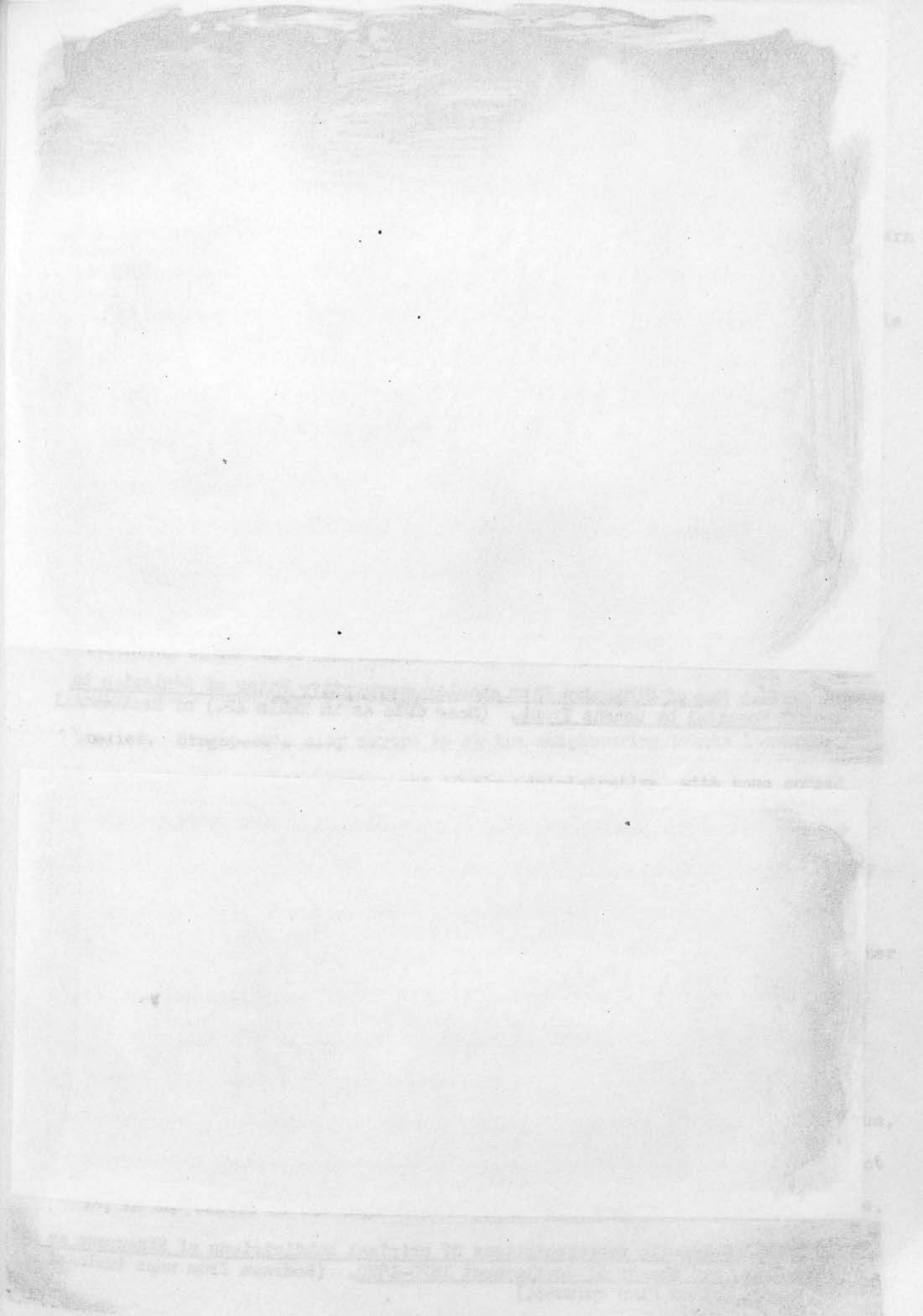
more usually is over ten times, in Singapore the highest is only four times the lowest. One possible explanation here is that in the

SURVEY	Number of Cases	Lowest Rate	Highest Rate
Chicago (7)	34,864	28.7	465.7
St. Louis (31)	3,047	17.2	442.6
Milwaukee (31)	6,142	28.6	429.9
Omaha (31)	1,001	32.0	245.9
Kansas City (31)	2,800	26.2	155.5
Peoria (31)	1,845	58.0	509.0
Austin (2)	421	(? 5)	(? 110)
Singapore	3,057	67.8	291.0

United States patients from better-class dis-

TABLE 43. Highest and Lowest Census Tract Rates for Mental Hospitalisation. Singapore and various United States cities, per annum.

tricts may tend to escape record by going to private psychiatrists or private mental hospitals (though the latter were often included in the surveys) whereas in Singapore there are neither private psychiatrists nor private hospitals to go to unless one leaves the country. However, the possibility must also be considered whether the difference between one part of Singapore and another is genuinely lower than in American cities, due to a difference in urban living patterns. By this I mean that in Singapore geographic stratification according to social class appears to be much less than in the case of many Western cities. The presence of a group of lower class huts, of squatters, or of deteriorated property will not lead to an area being shunned by richer people, and quite rich villas can occasionally be found hidden behind walls or behind an unimposing facade in a poorer



TOTAL MENTAL HOSPITAL ADMISSION RATES

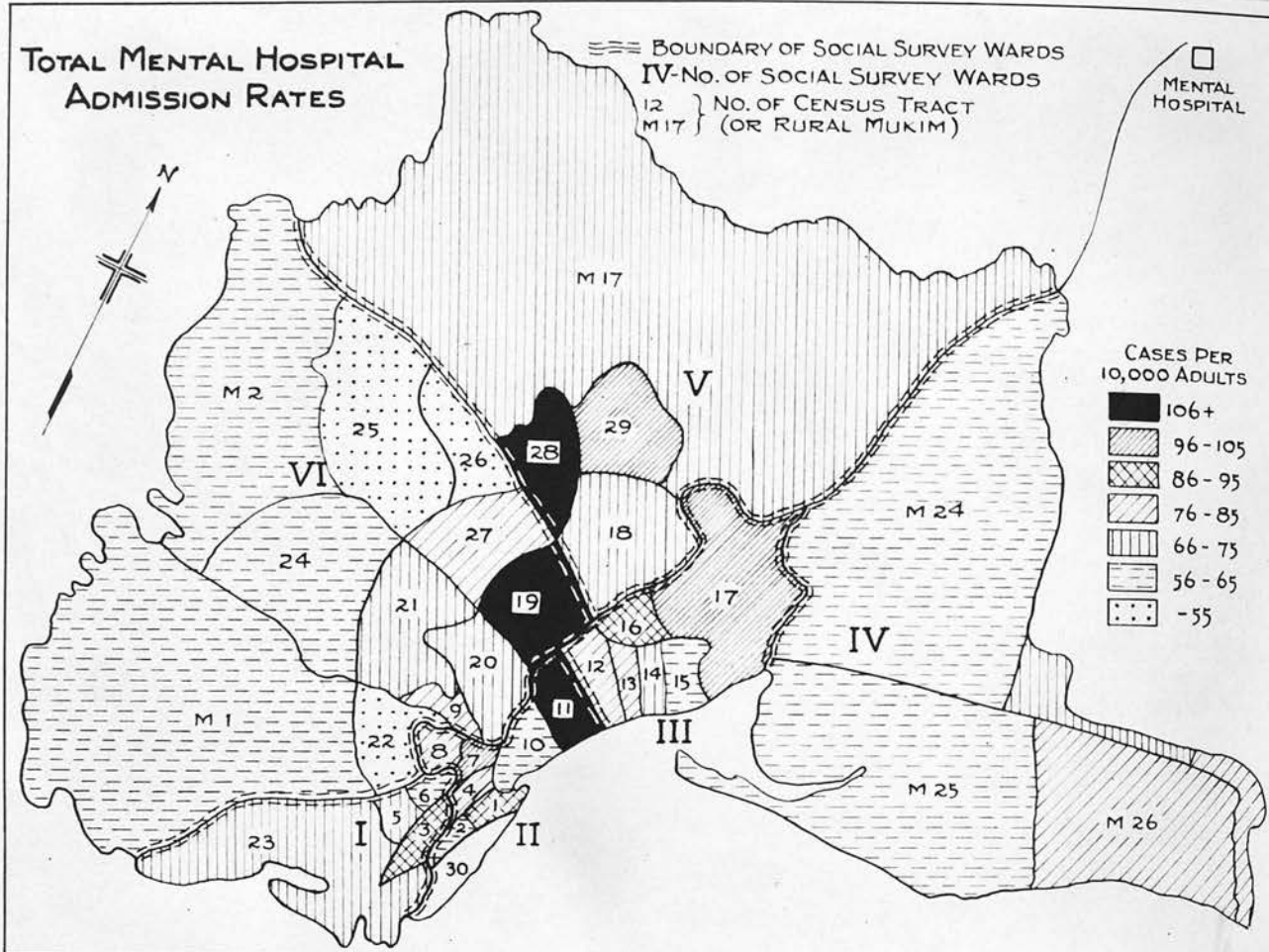


FIG. XXIII. Map of Singapore City showing comparative Rates of Admission to Mental Hospital by Census Tract, (Same data as in Table 42.) of Residential address.

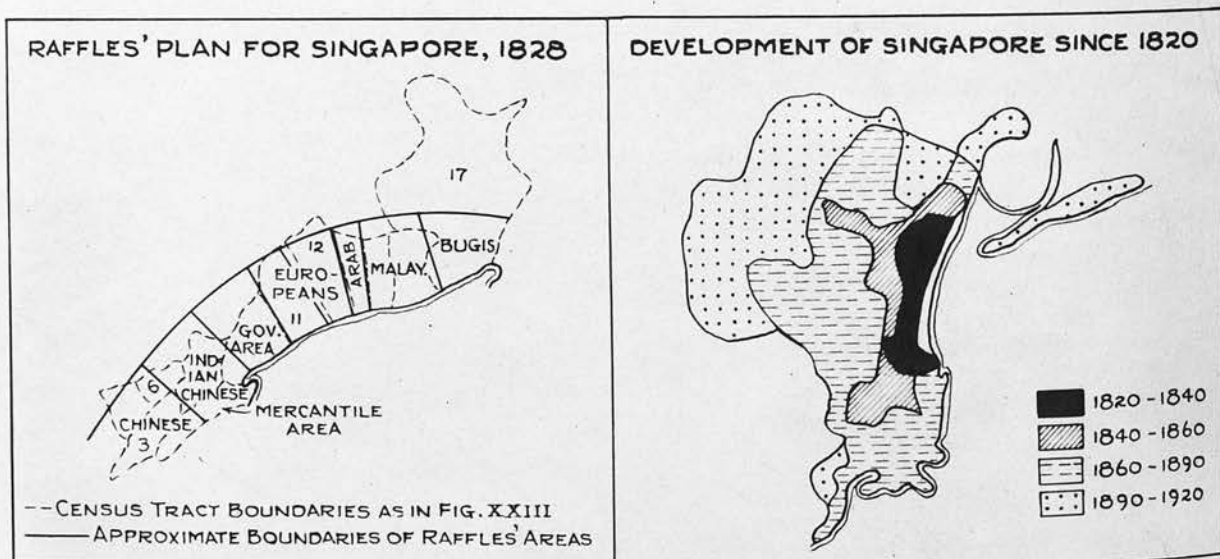


FIG. XXIV. Schematic representations of original subdivisions of Singapore as in 1828 Plan, and Phases of development 1820-1920. (Redrawn from maps included in Singapore Master Plan volumes.)

quarter. This is in part because the houses are not so solidly built, so that deterioration and replacement is faster, in part because the Chinese tradition was to live behind one's walls and to be unconscious of one's neighbours except when they were connected with one in another way. In Western cities, much of the zoning which is regarded as apparently inevitable is due to the need to know one's neighbours and to assess them strictly as acceptable or unacceptable, an attitude which eastern cultures do not have to the same extent. Despite all this, however, the distribution of mental disorder in Singapore is still significantly non-random. Certain parts do produce an excess of mental cases. the European upper-class and which now are split

The next point to consider is how the various rates appear on the city map. This is shown in Fig. XXIII. One's first impression is that the pattern is an acceptable, though not perfect, example of the concentric distribution which Faris and Dunham have described, with the centre located about tract 16 or 18. The slightest local knowledge, however, destroys this belief. Singapore's city centre is at the neighbouring tracts 1 and 10, 1 being the mercantile centre and 10 the administrative, with some spread into tracts 2 (business) and 20 (cultural). The maps in Fig. XXIV show how the city has developed from the original plan laid down by Raffles and today most of Raffles' decisions still stand and no new centre has developed. Hence, the circle of high rate tracts on Fig. XXIII can be seen to lie neither at the city centre nor around it, but to comprise what were and still are predominantly residential areas. In Raffles' time, tract 11 was a European area and the other high-rate tracts were also, at the beginning of their development, European areas which have since been taken over by a mixed Asian, mainly middle-class, population, with a few Europeans still remaining. Tract 18, in the centre of the high-rate circle, derives its low rate from a large,

better-class municipal housing estate recently erected there, its older streets having high rates like their neighbours.

The highest Singapore rates being in no sense central, can we say that they are in any way in a transitional area? In a limited sense, yes. It is not transitional in the sense that it is composed of better built houses which once accommodated middle-class and now are divided to take greater numbers of the lower class. Neither is it 'deteriorated' in the sense of having much dilapidation. Only a limited part of Tract 11 shows either of these features. But the area does contain many villas which were designed for large, probably extended, families or for the European upper-class and which now are split into two or three middle-class dwellings; and the people, though partly Westernized, appear to be clinging to former status or to be downwardly mobile rather than to be securely established or climbing. The transition from a predominantly European to a predominantly Asian population here must have occurred one or two generations ago, not recently, so that we are not dealing with a population who have themselves invaded a district belonging to an envied class - a concept of more importance in the West than here - and insecure for that reason. It is possible, however, that we are dealing with those of their children who have not been so successful or so ambitious as to move into a more fashionable area (of the Western Suburb type cited below, for instance) and hence that we have what Warner has called 'blocked mobility' ⁽³⁵⁾. Lacking any sociological studies of this part of Singapore I cannot say more, and I cannot satisfy myself that these tracts possess the above features to a distinctly greater degree than some neighbouring low-rate areas. But there is a certain feeling of characterlessness about the area, a lack of structure or of identification with any clear pattern of living, and this may be the real point about transitional areas elsewhere.

The remainder of Fig. XXIII shows a general decrease in rates at the city periphery and hence in this respect at least might seem to agree with the Western pattern, but here again the similarity is not as satisfactory as it might seem. In many cities, the built-up suburbs reach beyond the official boundary and the whole periphery, though interspersed with carefully planned open spaces, definitely remains urban and is in no sense rural. In Singapore, however, this applies properly only to tracts 1-22. Beyond that there are built-up areas in plenty and some planned open spaces, but these are interspersed with **empty** areas, villages, developed countryside and even what one might call jungle at one point. The inner kampongs (Malay type villages), of attap construction quite different from the neighbouring streets, do seem to have a limited corporate life of their own, perhaps with small plots of banana, sago, and vegetables around them, but most of their inhabitants will have work not greatly different from other city dwellers and it does seem legitimate to treat them as urban neighbourhoods. In the outer surburban zone, however, the kampongs are more like real villages with many of the inhabitants working in the fields and there are farms interspersed between them, truck-farming for the city market. Hence, although the difference in rates is still valid its meaning in relation to urban social structure is quite different. In Singapore, it is less true to say that low rates occur in the outer parts of the city than to say that they occur where city and country mix. Fig. XXIII does not, therefore, appear to conform to the common pattern found in the United States, although if one groups them broadly enough, the central areas (Social Survey Wards II and III) do have higher rates than the outlying ones (See Table 42).

Incidentally, it may be noted that the suburbs close to the mental

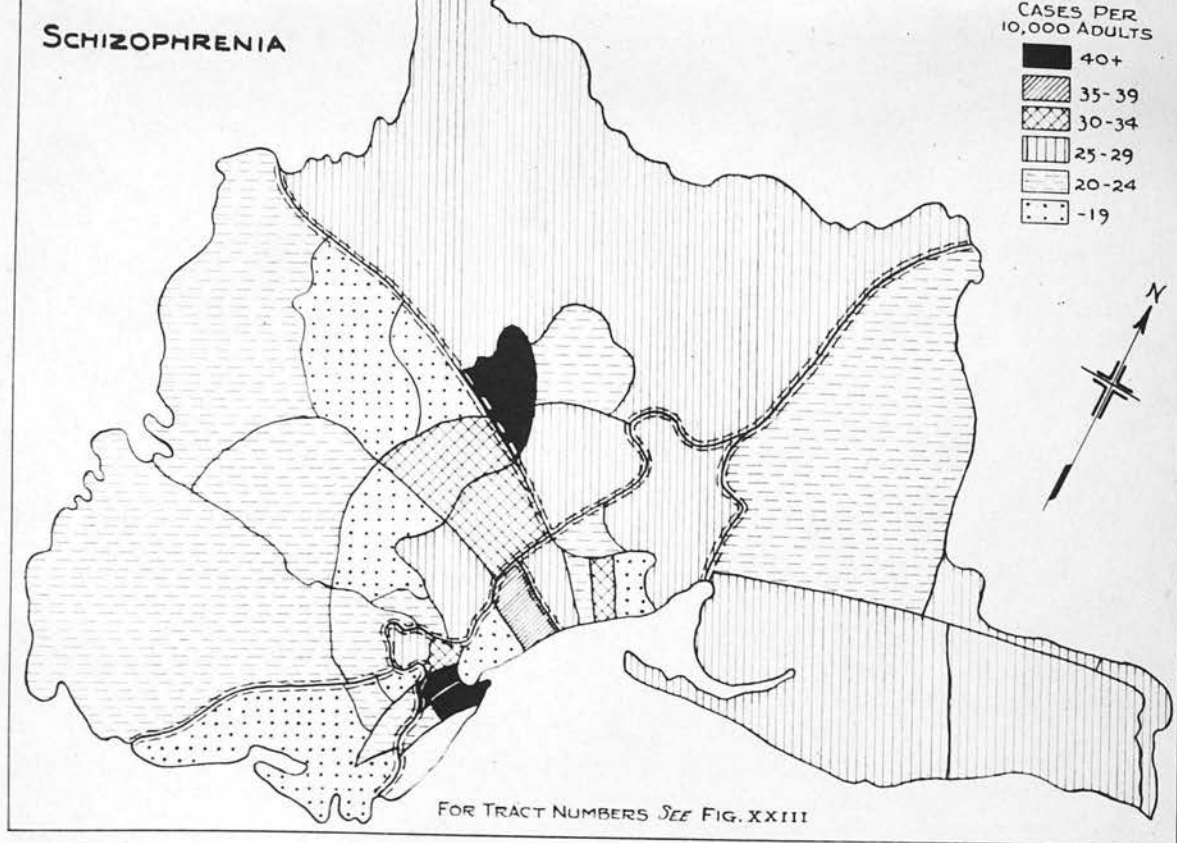


FIG. XXV. Map of Singapore showing comparative Schizophrenia rates, by Census Tract.

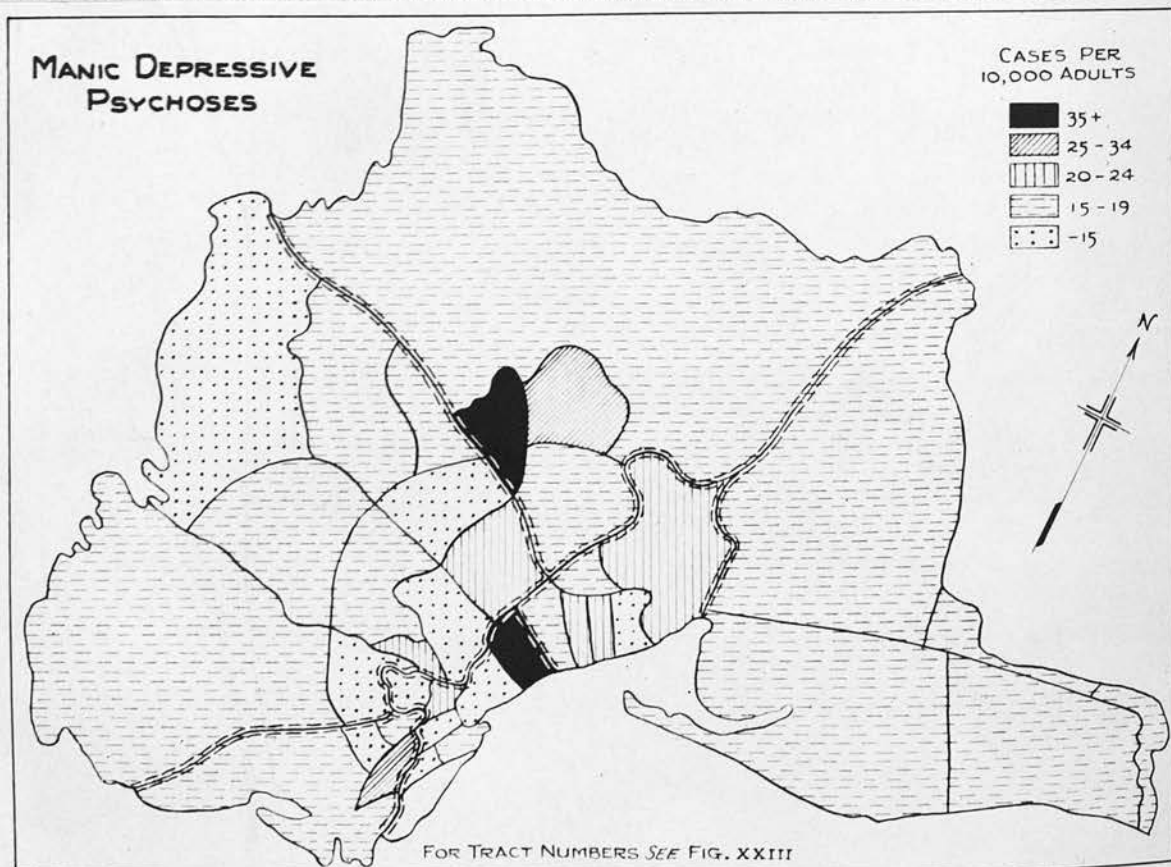


FIG. XXVI. Map of Singapore showing comparative Manic-Depressive Rates, by Census Tract.

hospital do not show a higher incidence than those distant from it, and the same seems true, within the limited area of Singapore island, for the rural areas*. Hence, for this limited area still another expectation is disproved, since it has been shown that, at least in the United States ⁽¹³⁾, mental hospitalisation rates tend to decline in accordance with distance from the hospital. The extent of the island is really too small to judge the matter, but at least one can say that distance from the mental hospital is not here a cause for the differences in urban-rural rates. In Malaya the decline in rates with distance from hospital is certainly true, but there it arises from very real difficulties in cross-country communication, MacKeith finding mental patients in outlying areas who had been waiting almost a year pending arrangements for transfer (personal communication).

The failure of the Singapore geographic pattern to comply with United States mental disorder zoning is even more striking when we come to consider the main diagnostic categories, as shown in Figs. XXV, XXVI, and XXVII. It will be seen that tract 11 has a high rate in all three maps, but otherwise that almost no pattern can be discerned at all, or even rough agreement between themselves. Schizophrenia, which in the United States has a similar ecological distribution to the total admissions, does not show it here. In fact, if we take the broad Social Survey Wards (Table 42) we see that the central area III has a lower rate than its neighbouring suburban areas. The only point of agreement with our expectations lies in the high rates for the mercantile centre (tracts 1 and 4). In the Organic Type Psychoses map, again, we find a slight agreement with expectation in that the periphery has a uniformly low rate, but when we come to the centre the rates there are almost

* S. I. T. and S. S. surveys did not cover rural area so that satisfactory estimates there are impossible. Rural rates are therefore not being discussed in detail.

equally low, the higher incidence appearing scattered in the intermediate zone. In the United States these nearly always have high rates. Superficially, therefore, we see not only no conformity to the Western pattern, in Singapore, the most densely populated, lower-class, deteriorated tracts - but virtually no conformity to any pattern whatever. Before this can be an acceptable conclusion, however, certain social differences need to be considered, are precisely those with low rates of hospitalisation. If we take tracts the first of these being ethnic composition.

In the earlier chapters, it was shown that marked differences in ethnic rates and patterns of mental hospitalisation exist in Singapore, the houses having fewer floors. Overcrowding and physical living conditions there main groups being the Chinese, Malaysians and Indians. Taking the crude rates are therefore as bad or worse than in any Western city (apart from the fact (for it is the crude, not the standardised, which are relevant here) the that the climate is more equable) but it is nevertheless quite wrong to say Malaysians prove to have only 50% of the Chinese rates, whereas the Indians have 135%, differences quite sufficient to upset the emergence of patterns is very different. The archetypal Western slum was the outcome of the industrial revolution, created to house in the cheapest way workers employed in not to blame. There is no tract within the city in which the Chinese are not industries in which they had little personal interest and by employers who the majority and usually the other two races tend to balance each other, so were personally unknown. But the industrial revolution had not really reached that standardisation for ethnic group would result in only two tracts of Fig. Singapore at the time of this study, and only a minority of the inhabitants XXIII being recategorised (tracts 14 and 20, both of which would be moved into of these areas, although a growing minority, were employed in large impersonal the next higher category). No greater change is required for the other maps concerns. The majority were immigrants who were either self-employed or who and in no case does the resulting picture show more pattern, the only significant results of such standardisation being that the scatter of schizophrenia rates becomes rather greater and that of manic-depressive rates rather less. though able to pay more, had chosen the cheapest possible accommodation - a Standardisation for ethnic group, therefore, would not bring us any nearer to bunk or stretch of floor in a room shared by strangers - in order to save an understanding of the picture. However, if we consider the tracts not in money in the hope of setting up or better establishing a business in which the terms of ethnic percentages but in terms of a less mathematical but more whole family, if it were present, would have a personal concern. Often the meaningful concept of cultural unity, then an explanation for some of the ap- wife would run the small undertaking with the children while the husband re- parent lack of pattern begins to appear.

The most striking difference between Singapore and American urban times. Family cohesion and the continuity of life between workplace and residential distributions of mental hospitalisation rates relates to what may be called was therefore much stronger in these slums than in Western ones, stronger

slum areas. In the United States, these nearly always have high rates. In Singapore, the most densely populated, lower-class, deteriorated tracts - the ones from which illustrations of an Eastern slum are frequently drawn - are precisely those with low rates of hospitalisation. If we take tracts 2-8 and 12-13 the population density is never less than the worst which east side Manhattan can show (and much higher than East-end London) despite the houses having fewer floors. Overcrowding and physical living conditions there are therefore as bad or worse than in any Western city (apart from the fact that the climate is more equable) but it is nevertheless quite wrong to say that the area is equivalent to a Western slum, for the psychological milieu is very different. The archetypal Western slum was the outcome of the industrial revolution, created to house in the cheapest way workers employed in industries in which they had little personal interest and by employers who were personally unknown. But the industrial revolution had not really reached Singapore at the time of this study, and only a minority of the inhabitants of these areas, although a growing minority, were employed in large impersonal concerns. The majority were immigrants who were either self-employed or who worked for a small employer with whom they were in daily contact; a very different thing from Manchester or Chicago. Moreover, they were often people who, though able to pay more, had chosen the cheapest possible accommodation - a bunk or stretch of floor in a room shared by strangers - in order to save money in the hope of setting up or better establishing a business in which the whole family, if it were present, would have a personal concern. Often the wife would run the small undertaking with the children while the husband retained a job elsewhere as insurance and worked together with her in his free time. Family cohesion and the continuity of life between workplace and residence was therefore much stronger in these slums than in Western ones, stronger

perhaps even than in better class areas of Singapore. In a sense, therefore, one might say that the low rates in these tracts support, by their very difference from Western expectations, the theories of anomie and social cohesion from which this specific field of study may be said to have originated. However, once again there are considerations which complicate so simple a conclusion.

These considerations are not concerned with attitudes to hospitalisation, although that is a matter which may legitimately be raised here. Since the majority of the population of these tracts are immigrants and lower class, it might be expected that they would be more ignorant of and resistant to Western medicine, and more accustomed to look after their mental sick themselves; but the evidence is against this. In general terms, I stated earlier that social workers, etc., had found resistance to mental hospitalisation not to come from the lower class but from the semi-Westernised upper and middle, in all ethnic groups. More specifically, a detailed study of a street in the heart of this area has shown a marked lack of neighbourhood cohesion or neighbourliness such as must be assumed to exist where a community looks after its own sick and destitute. Barrington Kaye's study of this street showed that although people in a house or a block tended to be all of the same dialectal subgroup and perhaps from the same district in China, they often did not know who the people in the next room were, and they showed little attachment to the community of the street. If someone needed help it would as likely be an acquaintance from another part, as a neighbour, who gave it. The objection to explaining the low rates of this area on the theory of high social cohesion, therefore, is not that the neighbourhood was looking after its own people and hence not sending them to hospital, but rather that no neighbourhood, in the social sense, existed and that the absence of organisation, measured in this

way, was quite marked. This is not the same as saying there was much anomie, (disorder) rates are low. My own hypothesis is that another feature of these areas, one which makes Singapore almost uniquely different from any Western culture is the family, not the community, and if the family is considered - city, was the major factor.

either the nuclear family or the extended one scattered over many dwellings -

A majority of the adult inhabitants of the tracts under discussion then the degree of organisation and adherence to social norms is quite great. were immigrants, and as noted in the previous chapter immigrants may possess

Such organisation, however, cannot easily be used to explain the low rates advantages as well as disadvantages in the matter of mental health. In most

in these particular tracts, for Kaye's study showed that family networks maritime cities it is common for slums to be occupied at least in part by

were not particularly concentrated within the locality (as in Bethnal Green), immigrants and foreigners, and a whole theory has been built up from the

but might be spread throughout Singapore, the people being quite mobile.

fact that in many American cities certain districts get handed from one in-Nor, to return to the earlier point, can the low rates be explained by fami-

migrant went to another, irrespective of culture or ethnic group, while the lies in these areas being more able or more willing to harbour their own

same so-called signs of social disorganisation remain. But in all such lo-mental patients than families elsewhere. On the contrary, the lack of

ocations, the immigrants were conscious of not belonging to the local culture privacy, the ignorance of who one's neighbour might be and the impossibility

and of being under some pressure to change. Even where one gets a city re-of excluding these neighbours from contact with a disturbed person, all made

aining in large part the culture from which its chief immigrants came, as it likely that treatment or custodial care would be obtained earlier by

with Sidney, it is the richer immigrant and not the slum-dweller who is the patients from such an area than by those from a kampong or suburban villa

culture-bearer. In Singapore, on the other hand, immigrants belonging to where privacy and seclusion were more possible. As I found out when in-

the 'gentry' class were very few, and in consequence it was as much the poor vestigating suicide, there is a strong desire in these people to avoid trouble

immigrant as anyone who was the culture bearer or culture reviver for the with the authorities, so that suicide attempts were anxiously reported lest

expatriate Chinese community. Hence, we find that the strongest cultural the witness be involved in a more unhappy fashion, and we can probably assume

tradition in Singapore persists precisely in these slums. In 'Old Chinatown', this to be true of mental disorder as well (though not with regard to gang

covering roughly tracts 2-8* and located where Raffles first established the attacks or secret society affairs, since that, of course, would have involved

Chinese traders, one finds the great clan meeting-houses, the most popular one with another 'authority'). Although we recognise that these slums are

temples, the 'kongsi' (See Chapter 10) and the groups of workers marked by different from Western slums, therefore, we do not yet have any clear under-

standing of why their mental hospitalisation (and, in particular, organic type

and 6. The outlying streets of 1 and 3 are quite atypical, with a strong admixture of Indians and in 3 many transient seamen. In addition, there is 'New Chinatown' with rather similar characteristics in tracts 11 and 13.

disorder) rates are low. My own hypothesis is that another feature of these areas, one which makes Singapore almost uniquely different from any Western city, was the major factor.

A majority of the adult inhabitants of the tracts under discussion were immigrants, and as noted in the previous chapter immigrants may possess advantages as well as disadvantages in the matter of mental health. In most maritime cities it is common for slums to be occupied at least in part by immigrants and foreigners, and a whole theory has been built up from the fact that in many American cities certain districts get handed from one immigrant wave to another, irrespective of culture or ethnic group, while the same so-called signs of social disorganisation remain. But in all such locations, the immigrants were conscious of not belonging to the local culture and of being under some pressure to change. Even where one gets a city retaining in large part the culture from which its chief immigrants come, as with Sidney, it is the richer immigrant and not the slum-dweller who is the culture-bearer. In Singapore, on the other hand, immigrants belonging to the 'gentry' class were very few, and in consequence it was as much the poor immigrant as anyone who was the culture bearer or culture reviver for the expatriate Chinese community. Hence, we find that the strongest cultural tradition in Singapore persists precisely in these slums. In 'Old Chinatown', covering roughly tracts 2-8* and located where Raffles first established the Chinese traders, one finds the great clan meeting-houses, the most popular temples, the 'kongsis' (See Chapter 10) and the groups of workers marked by

* More properly it covers part of tract 1, 2, part of 3, 4, part of 5, 6, 7 and 8. The outlying streets of 1 and 3 are quite atypical, with a strong admixture of Indians and in 3 many transient seamen. In addition, there is 'New Chinatown', with rather similar characteristics in tracts 12 and 13.

some distinguishing feature of dress, etc., who still behave much like medieval European guilds. Elsewhere in the city there are as large temples or meeting-houses, but not as active and as popular with the general Chinese public. Hence, the immigrant coming to Singapore and finding accommodation in old Chinatown feels surrounded by his own old traditions, his own speech, and most of the social features of his homeland. Even if he does not know his neighbour, in his casual observation of him he feels nothing strange, no habits or cultural practices to shake his old beliefs. Whereas, if he settles in a more mixed tract, mixed ethnically or mixed regarding attitudes to tradition, then his own ignorance of others and the doubtful validity of habits and beliefs, which he has possessed from childhood weigh on him, even though no pressure to change is meant. This is the difference between the Singapore central slum area and its physical equivalents in the West, and between the Chinatown area and the more mixed, though less dense, tracts surrounding it. In a sense, it is a difference in social organisation, but my own opinion is that the major difference lies not so much in that as in the question of familiarity. Irrespective of social interaction the Chinese immigrant living in Chinatown meets fewer aspects of life demanding to be re-thought and hence can devote himself more peacefully to his chosen goals. In this respect, the same apparent per-

The question may be asked at this point why I am emphasising only persistence or familiarity of tradition in seeking to explain how Chinatown, although a slum, has lower rates than many other parts of Singapore. In a city so ethnically mixed, surely the relative slightness of admixture in these tracts as compared to all others is something of importance. In the United States, it has been shown that Whites in a Negro quarter, or Negroes in a

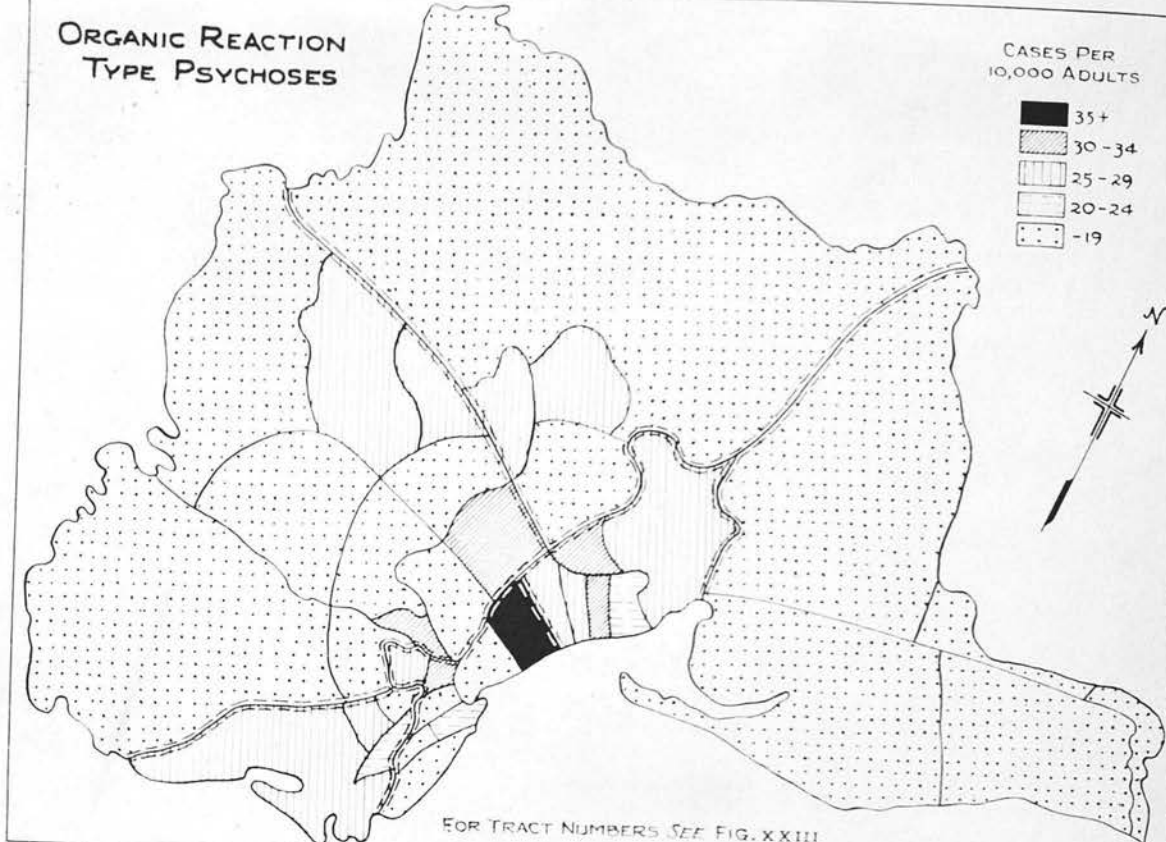
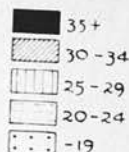
In most parts of central Singapore the different dialectal and ethnic

White quarter have higher rates of mental breakdown than either their neighbours (6,8) or their fellows in pure White or pure Negro areas . Similarly, in just the last chapter we saw how minorities have higher rates of certain disorders than larger groups. It might therefore be expected that degree of ethnic admixture would be the important tract variable. But it proves not to be so. Measured by census tract, no correlation can be found between percentage non-Chinese in the population and rate of mental hospitalisation either when the overall tract rate is taken or when the rate for the minority groups alone is substituted. There was some slight indication that the incidence of insanity among Malaysians increased as their percentage in tract populations decreased, but this was not statistically significant and was probably secondary to the urbanisation trend shown in Fig. XII (page 165). With the Indians, no relationship between percentage in tract population and level of mental hospitalisation could be found. We may say, therefore, that this is not the explanation for the lower rates in the Chinatown tracts, and that as far as census tracts themselves go, the degree of ethnic admixture does not appear to affect mental hospitalisation rates. That neighbourhood minority status has no effect whatever on such rates, however, is not truly proved by such data, for census tracts may be most unsuitable areas in this respect. The same apparent percentage admixture may be shown for a municipal housing estate where no racial segregation exists whatever as for a tract where two ethnic groups each occupy separate blocks and hardly meet. Fortunately, a means of investigating this point more accurately was available, and since it seemed unlikely in view of earlier findings that neighbourhood minority status had no effect whatever on mental health, a more detailed analysis was effected.

In most parts of central Singapore the different dialectal and ethnic

ORGANIC REACTION TYPE PSYCHOSES

CASES PER
10,000 ADULTS



FOR TRACT NUMBERS SEE FIG. XXIII

FIG. XXVII. Map of Singapore showing comparative Organic Reaction Type Psychoses by Census Tract.

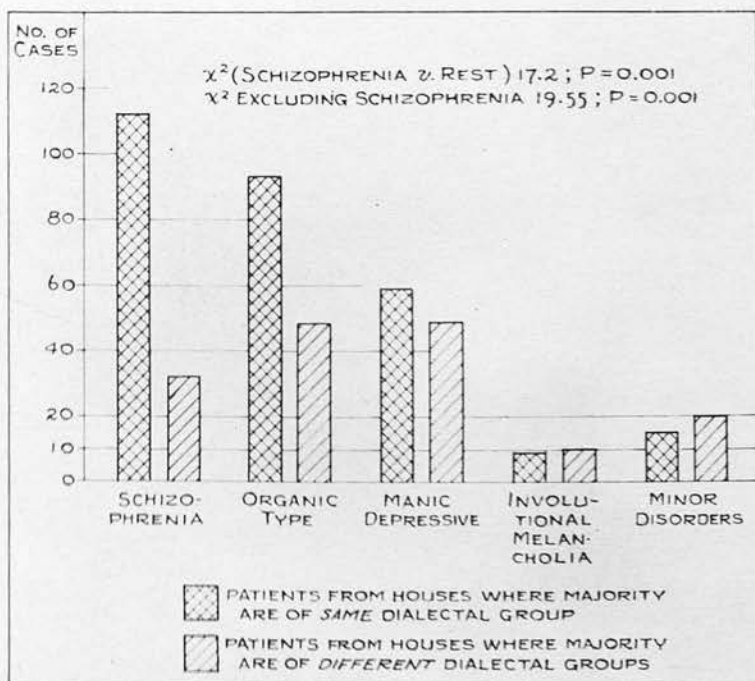


FIG. XXVIII. Diagnostic Distribution of Singapore mental patients according to Membership or Non-membership of Majority Linguistic group in Residential Unit.

groups tend to congregate in different blocks or houses, so that although within one street there may be much admixture, within one house there is usually less. Thanks to the publication of a special analysis of S. I. T. data by Hodder (16) the majority dialect or ethnic group in most blocks or houses in tracts 1-16 was known and hence could be marked on large-scale maps along with the ethnic group and diagnosis of mental patients coming from specific addresses. The degree of predominance of the majority group was not given and in some cases may not have been high, but at least it was possible to know whether a patient belonged to that majority or not, and hence to compare majority and minority group mental disorder patterns. Absolute rates can not be calculated by this method, but the relative distribution of the two types of patient in the different diagnostic categories can, and the result, as shown in Fig. XXVIII, is most interesting. Patients coming from a residential background which is in the main linguistically and probably culturally different from their own have a completely different pattern of mental disorder from patients coming from residences where the majority are linguistically and presumably culturally of their own group. In the latter cases schizophrenia greatly predominates, with the organic type group of disorders next. In the former group, the patients in a 'foreign' residential environment, the greatest absolute number of cases are the affective psychoses, with schizophrenia ranking only third. The differences are highly significant.

A little consideration will show that this is in almost complete contradiction to what Western studies could lead us to expect. Not only American studies but my own previous findings with refugee groups have pointed to the conclusion that schizophrenia is the mental disorder which 'strangers' are most liable to get. Refugees in Britain, Negroes in a United States White area,

Whites in a Negro area, and immigrants generally have all when studied showed an excess of schizophrenia and usually, though not always, a normal manic-depressive rate as compared with the surrounding population.* But in Singapore the Hokien in an Indian house, the Hailam in a Cantonese quarter, or the Indian in a Chinese area all show an excess of the manic-depressive psychoses and it is the patients who are culturally 'at home' who turn out to produce an apparent (we cannot at this point say actual, since the data are only comparative) excess of schizophrenia. The differences which we find are rather similar to those recounted in the last chapter as between immigrants and the local-born, but it should be noted that it is not this nativity dichotomy with which we are dealing now. The Hailam patient from a Cantonese street may be an immigrant, but he is as likely to be local-born, for it appears probable from survey data that new immigrants try to find accommodation among their own dialect or culture, and it is the local-born who mix more. Underlying the two situations may be the same basic psychological factor - in fact that will be my hypothesis - but it must be realised that we are not dealing here simply with two different presentations of the same data. What we find is that minority neighbourhood status, irrespective of nativity, tends in central Singapore to increase the amount of affective psychosis, but probably to decrease the amount of schizophrenia, (otherwise one would expect the total admission rate to rise with degree of admixture, which was not the case) relative to the majority group. Such a finding does not lend itself to immediate interpretation, but a hypothesis is not, I think, impossible.

* A later study by Freedman of Chicago migration suggested that the areas with higher 5-year mobility rates showed an excess of manic-depressive cases and none of schizophrenia. However, the mobility and hospitalisation data did not refer to the same period, which makes the finding doubtful(9).
both
laws which can be physically enforced and customs whose adoption or perpetuation depends on socio-psychological constraint. Generally, the outward compliance with laws agreed to by the collectivity does not involve the processes of interpersonal relationship which are important in the present context.

The hypothesis which appears to fit these findings best is virtually the same one as I put forward to explain the difference in Western and Singapore nativity rate differentials. The 'stranger' in a Western city views his neighbours (occasionally excluding special groups, e. g. Negroes) as people with whom social interaction should occur, and is viewed by them in the same way. He is expected and assisted to interact, but in order that such interaction should take place with the minimum of difficulty and minimum of self-questioning for the majority it is expected both by them and by him that he will adjust himself to their model. A sense of insufficiency of interaction is therefore felt by the stranger (and perhaps by the others) to be a result of the inadequacy of his own adjustment to the local model or culture and his response will usually be an attempt to adjust better. This is, I think, the meaning of (5) Faris's finding regarding social isolation as a schizophrenic inducer; it is isolation in a specific cultural context. In central Singapore, however, the 'stranger' and his neighbours have been brought up, especially if Chinese, to view social interaction as being proper only within a network of relatives, carefully chosen family friends and deliberate business or school associates. The rest of humanity around him does not knowingly constitute that society (9) from whom he seeks response and with which, as 'role-sets' he expects and is expected to interact. Hence, in this setting, if an individual or family is by accident or choice cut off from a substantial part of what they take as their true 'society' they neither expect nor are expected to make good the loss by social interaction with their neighbours, especially if these neighbours are people to whom no excuse of remote kinship or chain of 'proper'

* It is necessary to distinguish here, of course, between neighbours as persons and neighbours as part of a collectivity who have mutually agreed to certain restrictions of personal liberty. Similarly, distinction must be made between laws which can be physically endorsed and customs whose adoption or perpetuation depends on socio-psychological constraint. Generally, the outward compliance with laws agreed to by the collectivity does not involve the processes of interpersonal relationship which are important in the present context.

associations is likely to lead. (Kaye's finding in his Chinatown street in tracts 4, 2 and 8 and the average for the whole Chinatown area is where nearly all spoke the same dialect showed that knowledge of one's neighbours depended more on such connections than on casual daily contact, although the latter did manage to break down the theoretical barrier in time.) In consequence, a sense of insufficiency of interaction in the 'stranger' would not in Singapore be responded to by an effort to meet the cultural expectations of his neighbours, but rather by a simple feeling of loss and the affective reactions which loss brings. But if no such sense of insufficiency were felt, as might be the case with someone who could tolerate only a limited amount of social interacting, then little sense of strain at being a stranger would be felt.

This hypothesis, designed to explain the difference between Singapore findings and those in the West, should theoretically be applicable and testable within Singapore itself. For the broad purposes of the comparison it was necessary to typify the whole of Singapore in the above fashion, but within its bounds quite a variety of social interaction patterns are possible in different parts. In Chinatown itself, for instance, the sheer density of neighbourhood interaction in different localities* and a field sampling such as the Hokien and Cantonese must lead to a relatively greater concentration of those clanships, cognates, associations, etc. which constitute 'proper' society for the traditionally oriented person than can occur in less crowded and more mixed areas. According to the hypothesis, therefore, Chinatown areas had to be ones in which old traditions were weak, they had to be fairly should produce proportionately more schizophrenia and less affective psychoses than more mixed tracts do, irrespective of absolute level of hospital admissions, since in Chinatown there will be more people in the neighbourhood to whom the individual is likely to react and to adjust. This is the case.

Table 42 shows that the highest schizophrenia/affective-psychoses ratios are

in tracts 4, 2 and 8 and the average for the whole Chinatown area is definitely higher than for the remainder of the central working-class zone. (The lowest ratio is actually in tract 3, nominally part of Chinatown, but I noted earlier that only the northern part of this tract belongs, and inspection of my large scale map shows that the preponderance of affective cases derives from the Southern streets which are mainly inhabited by Indians, minority group Chinese, and sailors.) However, these are the same tracts from which the data for Fig. XXVIII were derived, and this gives a certain circularity to my reasoning. Much more valid and more interesting is to test the hypothesis by applying it to quite a different problem, namely the quite recent attempt, mentioned in Chapter 1, to evolve a common local-born culture in which Indian, Malaysian, and European elements, as well as Chinese, would share. In this process a breaking down of traditional modes of social interaction is implied and interaction with neighbours on the Western model, although not a necessary substitute, is undoubtedly being tried. I possessed no ready-made means of measuring the degree of such neighbourhood interaction in different localities* and a field sampling such as was done by Belknap and Jaco (2) was beyond my powers, but it appeared justifiable to attempt a subjective judgement of this from personal observation provided sufficiently different types of milieux were chosen. The areas had to be ones in which old traditions were weak, they had to be fairly

to be revised accordingly, but it carried sufficient impact). Furthermore,

* In retrospect I regret that I did not attempt to collect data of the type from which Angell (1) computed his index of 'moral integration', such as contributions to political and welfare funds, percentage registered voters and percentage voting, membership of cross-cultural groups, etc. Perhaps some other worker may benefit from this afterthought.

were quite high, and there was considerable scope for group negotiation on reduction of rentals, etc. Hence, new neighbourhood and tenant associations

unified in social character, and they had to be well mixed ethnically, but at the same time tendencies or pressures towards a common culture or towards neighbourliness had to be quite distinguishable. I think I found such areas, although one of them had to be rather small.

The first and simplest choice was one which had from the beginning struck me as meriting special enquiry and for which, in consequence, extra data were sought even before their relevance to the present hypothesis became clear. The visitor to Singapore today cannot avoid noticing the many large, attractive and well-planned areas of post-war flats with ample open spaces, mainly in the inner suburbs. These are municipal (actually S. I. T.) housing estates, built to coincide with or to precede slum clearance but Western in style, with much better facilities, and also with considerably higher rentals. A considerable part of their population did come from the central slum area as was intended, I think, but the average economic level was probably higher and I think it reasonable to assume that the poorer and more traditionally oriented would avoid them. Apartments were allotted without regard to ethnic groupings, and the management disturbed tradition still more by limiting the number of persons per flat, thus preventing families from taking less fortunate relatives to live with them, a widespread Asian custom which created problems for Corbusier's team at Chandigarh (enforcement could not be 100%, of course, and my population figures have had to be revised accordingly, but it carried sufficient impact). Furthermore, factors like the joint metering of water and gas prevented tenants from remaining ignorant of or indifferent to their neighbours, population densities were quite high, and there was considerable motivation for group negotiation on reduction of rentals, etc. Hence, new neighbourhood and tenant associations

were formed in such localities, political activity could be seen to be quite high, and it is my impression from visiting families in these areas that significant attempts, partly conscious, were being made in certain estates to evolve a common culture. Official population data and ~~unofficial~~ estimates of probable unofficial additions could be obtained for a number of such estates from their managers, with division into adults and children, and in consequence adult mental hospitalisation rates could be calculated. In one such estate, different from the others (and hence not included in the sample chosen) in that it was much more like the traditional 'coolie lines' (single-storied, two-roomed units, in rows) the hospitalisation rate proved surprisingly low. In the others, however, the rates calculated thus proved to be close to the city average although the distribution by diagnosis, as we will see, showed a marked and interesting deviation. We will call this sample the Municipal Estates.

To compare with these Municipal Estates I chose three other areas. The first was a recently built, low density, middle-class, suburb of small, discrete, bungalows and short terraces with at least as good, and as modern, physical amenities as the Estates. The population was very mixed ethnically. They were of slightly, but probably only slightly, higher social level than in the Municipal Estates; but they were more Westernised, with English as the main means of communication with strangers. In terms of interaction we can assume them to have some aspiration towards a common culture and to be more orientated towards their neighbours than is usual in Singapore, but there was no incentive to joint action, political neighbourhood activity seemed slight, and the low density of population resulted in involuntary contact with neighbours being relatively slight. We will call this the

Western-style Suburb and will assume that interaction is much lower than in the Estates but higher than in most other mixed areas. The second milieu was of much more mixed construction, with some houses brick and some attap, with streets straggling into nowhere, many houses without running water but at the same time a scattering of larger villas in the Chinese middle-class style. The population was mixed ethnically, sometimes randomly and sometimes in small clumps. They were on the average probably of slightly lower class than in the Estates, had been established there much longer (the area development probably dates from the 1920s) but were reported to be more than usually mobile. The area had a distinct character of its own and there was ample incentive for joint action in the ever-present dangers of flood and fire but one's impression even during times of emergency was that a neighbourhood feeling was weak and that most families still looked to their own relatives and family friends as the proper group with whom to associate. We will call this the Old-type Suburb and presume that neighborhood interaction is low. Finally, with much less reason for treating them as a unified, distinguishable, area, I have taken the middle-class tracts 19, 28, 29, which caught the eye as having the highest rates on the Fig. XXIII map. The housing here is mainly large villas and brick terraces, the villas often split into more than one dwelling but still with units of three rooms or more, the whole showing a slightly decayed character but not seriously deteriorated. The population is very mixed but appears to be established middle class struggling to maintain status. They demonstrated no specific character and there was no evidence of group activity, but they are partly Westernised and hence may possess a trend towards a common culture which the Old-type Suburb did not.

central groups mentioned earlier.

Density of population is as low as in the Western-style Suburb but interaction must be presumed to be much lower, the lowest of the groups chosen though not the lowest in the city. We will call this, though without good justification, the Transitional Area.

	Admissions	R A T E S				All Admiss.
		Schizophrenia	Affect. Psychos.	S/A Ratio	Organic Type Psychoses	
Housing Estates	100	39.0	10.5	<u>3.71</u>	17.3	75.0
Western-style Suburb	38	23.3	18.0	<u>1.30</u>	30.3	78.4
Old-style Suburb	241	22.1	17.5	<u>1.26</u>	15.4	62.0
Transitional Area	127	31.1	27.7	<u>1.12</u>	30.3	109.1
Central Tracts 2-8, 12, 13 (Chinatown)	831	25.5	17.4	1.47	23.0	78.8
Central Tracts 1, 9, 11, 14, 16, 17, 23	607	28.5	25.0	1.14	31.2	102.3

TABLE 44. Comparative Rates of Schizophrenia and the Affective Psychoses in different Social Milieux, Singapore. (For details see text.)

For the Transitional Area and Housing Estates rates could be calculated directly by relating S.I.T. census tract and Housing management data to cases located by address. For the other two areas direct calculation was not possible, so the overall admission rates for the enclosing census tracts (of which they comprised a major part) were taken and to these were applied the diagnostic distributions of cases from the relevant addresses. This means that for the latter areas the actual incidence rates may err slightly, but the schizo/affective ratio is independent of such risk and the highest ratio apart from the Housing Estates and the Mixed Working-class tracts having almost the lowest. The hypothesis, if not fully validated by results are shown in Table 44, along with the comparative figures for the two central groups mentioned earlier.

We see that the shift in the schizo/affective ratio is in accordance with the prediction. In the Housing Estates, where neighbourhood interaction was being both imposed and actively sought, the ratio is very much higher than in any of the other areas chosen, the schizophrenia rate being almost the highest in Singapore and the affective rate almost the lowest. The picture is very similar to that in Tract 4, permitting me to point out that for this hypothesis neither ethnic uniformity nor ethnic diversity is the important fact, but rather the way in which such uniformity or diversity was seen and responded to*. Of course, in the case of the Estates' population, chosen by the housing officials from a large list of applicants and hence not randomly collected, we must be sure that the selection has not biased our results. However, eligibility for S.I.T. housing favoured married couples with several young children and operated against single people or couples whose children were now independent, so that any bias which it introduced would tend to go in the opposite direction to our findings. Regarding the other areas, there is, as one would expect, less scatter in ratios, but it is in the predicted direction. One might have expected more difference between the ratios in the Western- and Old-style Suburbs; but the former's cases are few, with consequent lessened reliability of rates, while in the latter the existence of small enclaves of different cultures may have been greater than I realised. The two central zone groups, also, prove in comparison with the others to rank much as we would expect in this respect, Chinatown and its borderland having the highest ratio apart from the Housing Estates and the Mixed Working-class tracts having almost the lowest. The hypothesis, if not fully validated by

* This might be taken as a revision of Faris's ecological theory (point (g) at the beginning of the Chapter) on ethnic mixing.

so simple a demonstration, at least proves to receive support. Moreover, the difference between the Housing Estates and the rest of Singapore in the question of amount of schizophrenia and amount of affective psychoses suggests that the predominance of schizophrenic diagnoses in the West and of affective diagnoses in Asia (and in Europe at an earlier period) may not be an accident. I have heard American psychiatrists go the length of saying, from their own experience, that all functional psychoses are schizophrenic and that an affective label refers merely to a slight difference in symptomatology. Such a view may have some validity in a culture which emphasises social equality and hence does not differentiate between those with whom one consciously interacts and those with whom one does not, and yet be completely wrong in cultures where such differentiation is clearly marked.

Total Mental	Organic
Hospital Ad-	Type
missions	Psychoses

This last point brings us, if somewhat indirectly, to another finding in Western cities which might or might not be related to the foregoing discussion. It has hitherto been common to find that urban areas with a high percentage of single people and much physical mobility (e.g. lodging-house areas) have higher rates of schizophrenia than most other tracts.

TABLE 45. Coefficients of Correlation between Survey of Social Isolation and Physical Mobility. (Data on social

There are two main hypotheses, not necessarily contradictory, to explain this fact. On the one hand it has been suggested that the lack of adequate social contacts among people who have to live in lodging houses and to move much is schizophrenia-inducing - the social isolation hypothesis in one of

(5)

its forms. On the other hand it has been suggested that such areas are sought out by schizoid individuals for whom interpersonal relations are difficult to that they easily quarrel with their primary groups or, without quarrelling, seek to put themselves at a distance from relationships which

(15)

are too complex. Earlier, I suggested that the social isolation hypoth-

esis, if valid at all, is likely to be so only in cultures where there exists a certain view of what constitutes one's society and the interactional process with it, and that since such a view does not dominate in the majority of Singapore's inhabitants the hypothesis is not applicable there. However, this suggestion of mine does not cover the other, the schizoid drift, hypothesis. According to that, one should still find schizophrenia correlating positively with percentage recent mobility and percentage of single-person households in Singapore, unless there is some further reason for thinking that there people with difficulties in interpersonal relationships are prevented or diverted from going off on their own or from being more mobile. Let us look at the facts.

Table

		Total Mental Hospital Ad- missions	Schizo- phrenia	Organic Type Psychoses
45 shows the	Percentage less than 5 years in present home	<u>-0.865</u>	0.01	<u>-0.82</u>
correlations	Percentage of Single- person households	<u>0.81</u>	0.02	0.73
between mental				
hospitalisation				
and certain				

measures of physical mobility and the single-

TABLE 45. Coefficients of Correlation between S. Survey Ward levels of Mental Hospitalisation and two indices of Social Isolation and Physical Mobility. (Data on social variables derived from unpublished Social Survey material. Coefficients underlined are beyond the 0.05 level of significance.)

person household, for the six Social Survey 'wards' shown in Fig. XXIII. It is regrettable that such broad areas had to be used, since they are increasingly less uniform in character and the small number does not distinguish between different variables so well. However, the requisite data could not be obtained otherwise and the higher levels of correlation required for statistical significance correct somewhat for the small number of units. Moreover, for

one of the variables at least, the single-person household, a completely different approach giving very similar results will be used in a later chapter (Chapter 10).

The results shown in the table indicate that significant correlations were found, but, most interestingly, they run in opposite directions. Moreover, schizophrenia itself, which in the above discussion was presumed to be the main type of disorder affected by this type of social variable, shows no correlation whatever with either. With regard to the single-person households the findings are in one respect in agreement with our anticipations, since we would not, in Singapore, expect isolation to induce a schizophrenia type of response; but what are we to say with regard to the schizoid drift hypothesis? Apparently Singapore pre-schizophrenics either do not tend to drift into common locations, or if they drift they find relief rather than superimposed strain in their freer situation and hence manage to keep out of hospital to a greater extent than their fellow pre-schizophrenics who stayed at home. Neither of these alternatives seems impossible. On the one hand it is known that one finds pre-schizophrenic patterns of living not only in the disengaged but also in the overdependent, and it is possible that Chinese culture may encourage the latter rather than the former, for we have seen earlier (pp. 74 et seq.) that Chinese students tended to be more neurasthenic and dependent than indifferent and rebellious in their neurotic deviations. Such cases would tend not to drift. At the same time we had reason to suspect that for this age group migration overseas might reduce the incidence of mental disorder instead of increasing it, a possibility which seems the more plausible now since we realise that such movement may reduce the number of persons with whom one is expected to interact and hence possibly reduce one type of mental

the finding of a positive correlation with percentage single-person households. We will be able to return to this point later when discussing primary group influences; for the moment our data do not permit us to go further. For that a different approach is required.

In Table 45 what significant correlations we did find depended mainly on the presence of the organic reaction type cases, schizophrenia and the affective group (not shown) giving no correlation whatever. In the United States the organic reaction type cases are, with good reason, not usually treated together and the smaller numbers involved in the more detailed categories prevent significant correlations from appearing so easily. Nevertheless there is evidence, in the Chicago⁽⁷⁾ and Syracuse⁽¹²⁾ work, for instance, to suggest a similar positive association with the single-person household. In this matter, therefore, I do not think we need ask why the association appears in Singapore and not in Western cities, and the finding is quite in accord with the hypotheses concerning this group of disorders mobility, which may operate in quite a different direction, and also the different types of mobility. For instance, the movement of rural labour into an industrial city involves considerable social dislocation, irrespective of rarely depend or who can take over part of the simple, everyday, decision making. In comparison with people in larger households, therefore, the single person is in the same position as the minority group member vis-à-vis correlating 0.64 with mobility (by census tract). But the expansion of the majority group one or the simple family head (see Chapter 10) vis-à-vis an existing urban middle-class into the suburbs involves minimal social dislocation and a certain selection in terms of success, which probably to achieve the same results, to be more continually mentally active, the accounts for the fact that in an administrative type city, Austin (Texas), mental activity being not necessarily of a high order but receiving less respite. Moreover, the single person living alone is likely to be in poorer physical health, another point more relevant to the organic type than to other categories of mental disorder. However, all this goes very well with

the finding of a positive correlation with percentage single-person households, but does not go nearly so easily with the finding of a negative correlation with percentage recent mobility. For that a different approach is required.

Hitherto, both in the literature and in this volume, mobility has been discussed mainly in relation to schizophrenia. We have considered the social isolation of the mobile, and also the schizoid drift hypothesis, but neither would lead us to suspect a negative correlation for any other form of mental disorder. A more general hypothesis also found is that mobility of any sort, social as well as spacial, constitutes a strain which the non-mobile does not meet, a strain similar to the unfamiliarity which I suggested might distinguish the mixed from the Chinatown environment; but again it is assumed that the mobile will have the higher rates, not the non-mobile. This last argument sounds plausible, but it seems to me to ignore the causes of mobility, which may operate in quite a different direction, and also the different types of mobility. For instance, the movement of rural labour into an industrial city involves considerable social dislocation, irrespective of motive, and so it is not surprising that Schroeder in Milwaukee, where migration was probably largely of that type, found mental hospitalisation correlating 0.64 with mobility (by census tract) ⁽³¹⁾. But the expansion of an existing urban middle-class into the suburbs involves minimal social dislocation and a certain selection in terms of success, which probably accounts for the fact that in an administrative type city, Austin (Texas), ⁽¹⁸⁾ Jaco found a negative correlation between the two variables. In a number of ways mobility may easily become associated with health or success. For example, physical disease is likely to reduce earnings and this in turn may

lead to mobility if cheaper accomodation can be found, but if it is cheaper to stay still than to move then the association will be reversed. In many cities today regulations or custom forbid or discourage a landlord from raising the rent to existing tenants while permitting him to raise it to newcomers either directly or through the imposition of key money. One finds, especially in post-war continental Europe, the rent paid by long-time residents being too low even to cover repairs, while rents demanded of newcomers may be many times higher. Such a situation encourages the economically declining section of a population - declining by reason of ill-health, retirement, maladaptation or inefficiency - to remain non-mobile, and it is from this section that one would expect not only more mental breakdown but more organic type mental breakdown. These considerations apply to Singapore; they need not apply everywhere. When some correlation has been found Another more specific reason for finding a negative correlation in the present case exists, however; a flaw in the index used. If we consider mobility purely as a personal affair, then only the likelihood of the individual patient having moved is important, but if we consider it as a matter of a relationship between individual and environment, then clearly the question of the environment moving is also important. The enquiry Were you in this house five years ago? is a good measure of personal mobility and when asked not only of patients but of a general population sample may be a measure of environmental movement experienced. As between a condemned slum and a new suburb, however, it is a very poor measure of environmental movement, for whereas in the latter one will meet virtually 100% apparent mobility, in the former there may be apparently no mobility recorded although much outward movement has occurred, if the evacuated accomodation is not re-occupied.

This is partly what happened in Singapore. Moreover, we have seen that the new housing was made available mainly to families with children and to those who could pay higher rents or mortgages, while the single, the poor, and the old without children were neglected and hence would all the more probably remain in the older areas. The inner residential tracts thus score low in apparent mobility by this index but saw quite an amount of real movement and retained disproportionately those types of person in whom the organic type mental disorders were most likely to appear.

The idea of mobility being not so much an operative factor in itself as an index of some other underlying variable leads us to our next consideration, the question of any relationship between the census tract rates of mental hospitalisation and those of suicide, crime, divorce, broken families, and other signs of social disorder. When some correlation has been found or suspected between these the common explanation has not been that one is affecting the other (as is not impossible) but rather that they all reflect a common basis, this common basis usually being labelled (22a, 8) 'social disorganisation'. The validity of that hypothesis can be questioned, but since we have already seen that social organisation in Singapore is not mainly on a neighbourhood basis, the relevance of discussing the matter here is doubtful. Let us first see if any relationship on a census tract basis exists between these various disorders in Singapore. If none appear then nothing is either disproved or proved and we can pass on to the next point.

Maps showing the geographic distribution of suicide and juvenile delinquency rates in Singapore are given in Figures XXIX and XXX. Data on divorce were difficult to obtain and in any case would have had little meaning

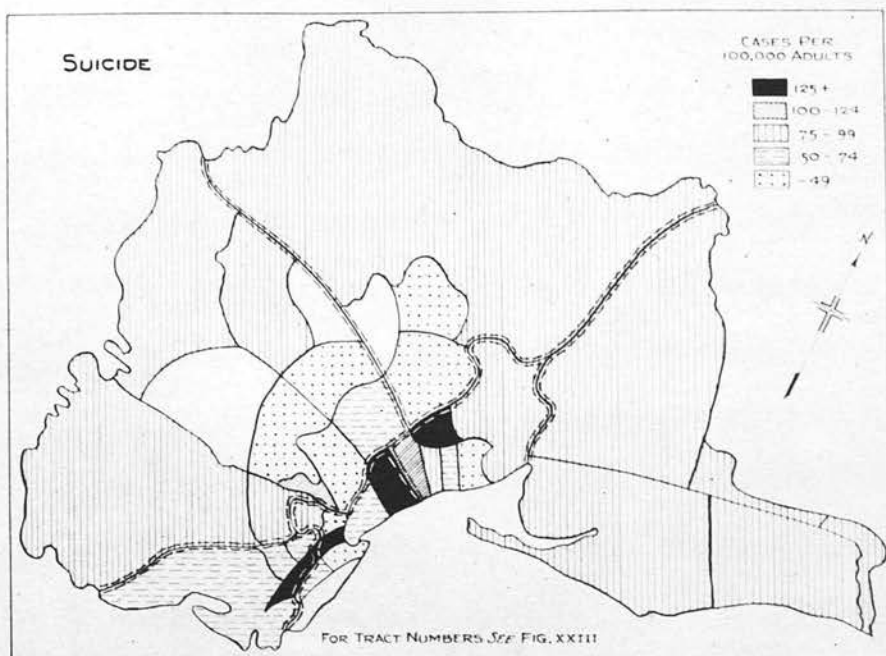


FIG. XXIX. Map of Singapore showing comparative Suicide rates, by Census Tract.
(Redrawn from previous paper; data refer to residences, not location of act.)

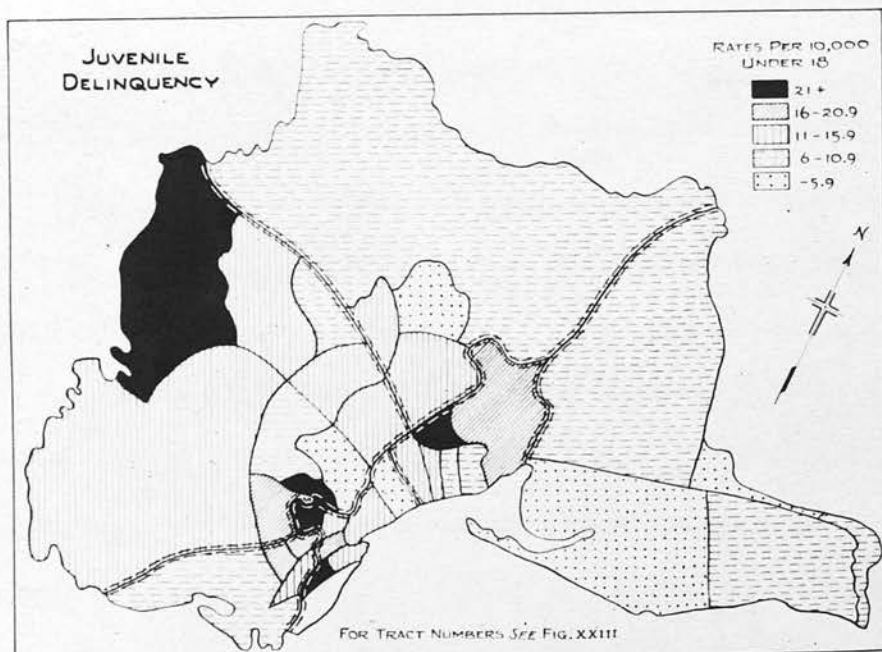


FIG. XXX. Map of Singapore showing comparative Juvenile Delinquency rates, by Census Tract. Rates refer to cases found guilty of offences against persons or property, but not of offences against discipline (e.g. hawking without a licence) in boys aged 9 to 16, as related to estimated population under age 18; by recorded residence, not ~~the~~ location of crime.

in Singapore where so many different types of semi-legal marital relationships exist. Regarding adult crime, an analysis done by the police which I was not enabled to copy but which showed a quite different pattern to those on my own maps, suggested that a negative correlation might have been possible but not a positive one. On the other potentially available indices of social distress or disturbance various uncontrollable variables, e.g. on apparent relation between location of relief office and residence of claim-
(11)
ants, made their value doubtful. We are therefore reduced to considering suicide and juvenile delinquency.

As is seen from a comparison of the maps, no real agreement exists, either with total mental hospitalisation or with any of the three main categories of mental disorder. This is confirmed in the accompanying Table 46.

Suicide does not correlate signifi-

cantly either with total mental hospital admissions or with any of

the three main diagnostic cate-

gories (not shown). Juvenile

delinquency does not correlate

significantly with any of them

either, for the whole of Singapore,

but for Chinatown alone a nega-

tive association with total ad-

missions is found. We thus have

no evidence anywhere that these various conditions, when analysed by census

tract, are related positively, although they all have a non-random distri-

supportive to the old but heavy on emergent youth, so it is possible that

	Mental Hospitalisation	
	Urban Singapore	Chinatown only
Suicide	0.17	0.24
Juvenile Delinquency	-0.12	<u>-0.66</u>

TABLE 46. Coefficients of Correlation between Mental Hospitalisation, Suicide and Juvenile Delinquency rates in Singapore Census Tracts; for the urban area (35 tracts) and for Chinatown only (tracts 2-8, 12-13). Coefficient underlined is beyond 0.05 level of significance.

bution, and therefore we need not discuss the question of whether they are related to some common basis such as the hypothetical social disorganisation. Singapore does not appear to possess the type of 'problem area' in which all kinds of personal and social disturbances are found in excess together. In other types of social complex the association may exist, but not in specific neighbourhoods.

The negative correlation between adult mental hospitalisation and juvenile delinquency still remains for consideration, however, but it is possible that this is in part an artefact introduced by the necessarily rough method used to estimate the proportion of adults and children in each tract. This information was not given in the census and could only be derived from the Social Survey sample data which used the larger 'wards' as units. It was necessary, in the absence of other evidence, to assume that the proportion of children to adults in a 'ward' applied equally to each tract within the ward; an obvious source of error but not, in my opinion, a large one. Spot checks were possible using S.I.T. housing reports and neither these nor personal impressions suggested a marked variation within single wards. However, when comparing a rate which applies to children with a rate which applies to adults any error of this sort will tend to increase negative correlations and decrease positive ones, whereas the same error, when comparing rates for adults only, will tend to exaggerate positive correlations and decrease negative ones. The significance of this correlation is thus doubtful. Given that it is meaningful, however, the only explanation that I can suggest is that just as cultural factors have been found in previous chapters to be supportive to the old but heavy on emergent youth, so it is possible that

neighbourhood characteristics benefitting the adult in Chinatown might weigh heavily on the adolescent. One might suggest that the very strength of tradition which was easiest for the adult immigrant to fit into might be the most difficult for a Singapore child to grow up in, exposed as he must be to cultural variety in his formative years. This is a point I may be able to explore when I analyse my delinquency data further, but for the present I cannot say whether delinquency is related to tradition in Singapore or not, or even whether strength of tradition varies between one Chinatown tract and another in the way the hypothesis would require.

Regarding suicide a little can be said in answer to the surprise some reader may have felt at the lack of correlation even with the manic-depressive psychoses. One point is that neighbourhood is probably not a suitable social unit for such a comparison since the properties of Singapore neighbourhoods appear incidental to the individual's concept of his true society rather than central as may be the case in some Western cities. However, it is also true that in Singapore suicide appears to respond to different social pressures from those principally affecting mental hospitalisation, being in this respect different again from the West. The most dominant apparent cause of suicide which I found was chronic bodily disease (e.g. chronic tuberculosis); another apparent cause was failed personal ambition; a third was probably the desire in old people and the sick to relieve their families of the burden of caring for them. These are very different from the factors which I have suggested lie chiefly behind the different types of mental disorder. Regarding the geographic distribution of rates, I showed in the former paper that degree of ethnic neighbourhood admixture was a possible factor, whereas for mental disorder in general we

have seen that this did not apply. Had it been possible to chart the incidence of failed suicidal attempts instead only of the succeeded cases, then I believe that a correlation with mental disorder would have been obtained; but that is, I believe, a very different condition.

The ecological variables discussed above have all dealt with relations between the individual and the surrounding population. However, a city has physical as well as social characteristics and one may justifiably ask whether some of these might not also be affecting mental disorder incidence. We know from industrial studies - the Hawthorne Western Electric (28) (30), for instance - that such physical factors usually have less influence on the mental state than do social ones, but when they can be separately analysed out matters like noise, temperature and airspeed do (34) prove to be probably relevant. Further, through the more frequent (36) production of fevers, etc., a number of other physical variables become potentially related. The difficulty is always, however, to separate them from the more influential social factors with which they may be associated; and in terms of whole cities indices of relevant physical factors are usually lacking. In Peoria a correlation by census tract of 0.71 was obtained between mental hospitalisation and percentage houses requiring (31) major repair, a factor suggesting physical discomfort; but just as large correlations were obtained with social variables and the two categories were not partialled out. In Paris a relation has been shown to exist between admission rates to Ste. Anne and the percentage of houses not (21) having water, gas and electricity, but again, social factors were not distinguished. For the District of Columbia population density was the only one of many factors analysed which correlated significantly with (11) crowded by common British standards in mixed industrial tracts and in

district rates of psychiatric rejection at Forces Induction Centres,
(13a)
suggesting a more dominant influence than some social variables .

Against all these Hare in Bristol found no correlation at all with population density and a negative correlation with mean ratable value, the
(14)
latter being presumably a slight indicator of physical state . The only instance where I know partial correlations to have been used successfully in the matter was for Honolulu where Schmitt showed that mental hospitalisation correlated well with 'persons per net residential acre' and negligibly with persons per room and dwellings per structure when the first factor was
(30)
held constant . However, he unfortunately did not continue his analysis into a partial correlation with purely social variables and he used admissions to only one of the mental hospital units on the island, ignoring Queen's Hospital (see Table 14) which took a considerable and rather biased
(36)
proportion of the lighter psychiatric cases . No studies in noise intensity, availability of participant amusement places, or of travel facilities (to mention only three possibly relevant items) appear to have been done in relation to mental disorder. I therefore need not apologise for the very limited data I can present for Singapore.

The indices available to me were two measures of population density by census tract and a measure of mean rental by Social Survey 'wards'. (A further S.I.T. index of dilapidation was not uniformly enough applied through the city to be used but, as far as it went, suggested an inverse relationship to mental disorder rate.) The one measure of population density dated from the 1947 census and did not discriminate between residential and industrial property. It was thus a poor measure of overcrowding (that is the right word, for over half of all Singapore households are overcrowded by common British standards⁽¹¹⁾) in mixed industrial tracts and in

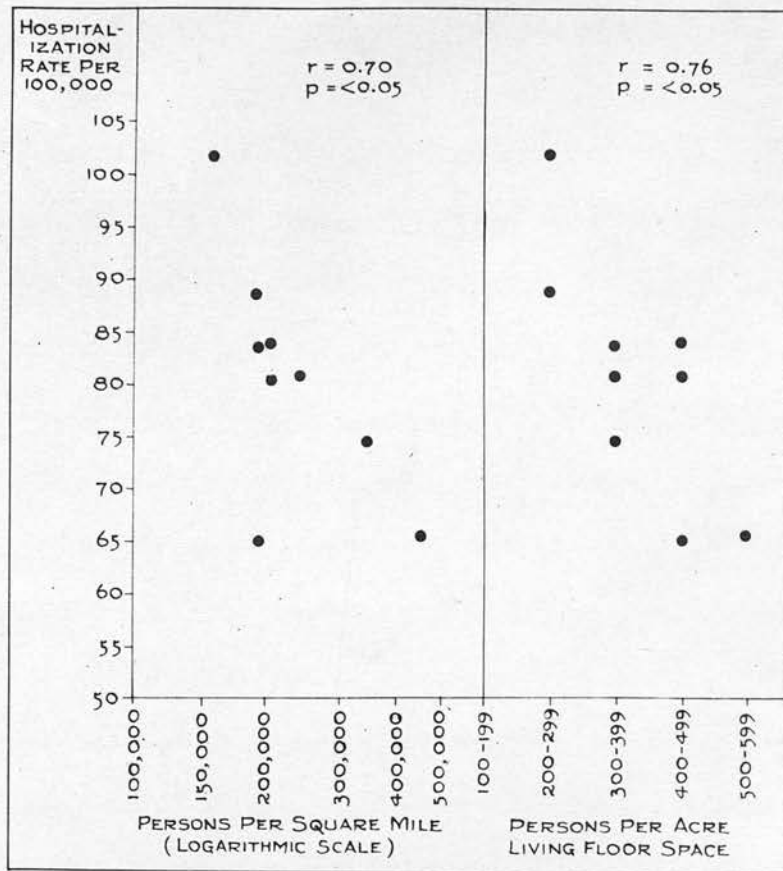


FIG. XXXI. Incidence of Mental Hospitalisation in Singapore by Density of Population per acre living-floor-space. (data on population densities in different census tracts by courtesy of Singapore Improvement Trust Survey Team.)

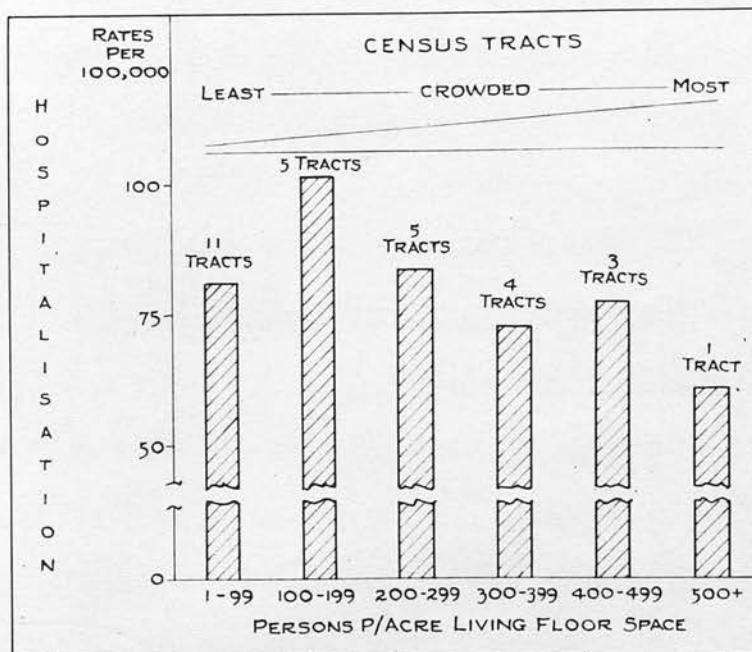


FIG. XXXII. Scattergram showing relationship between Mental Hospitalisation Rates and Density of Population in Singapore Census tracts 2-8, 12-13 (Chinatown) using two measures of population density. (Density data on persons-per-square mile from 1947 census; data on persons-per-acre-living-floor-space from S.I.T.)

those where constructional changes had occurred, but it took into consideration open spaces, a matter of some importance in Singapore where so much living takes place on the street. The other measure of population density related not to land but to accommodation, being the S.I.T. 1952-3 assessment of 'persons per acre residential floor space'. This ignored street and park area, but was more up-to-date and much more useful for a comparison of central and suburban housing, where the latter might be as overcrowded as the former despite the existence of large open spaces in between.

Comparing only the six 'wards', average rental gives a correlation of -0.74 with mental hospitalisation, showing the expected tendency although not to a statistically satisfactory degree. The main constituent in this correlation is the organic reaction type group (-0.70). When we come to the measures of overcrowding, however, quite a different picture appears. Overcrowding by the census measurement correlates not at all - we would scarcely have expected it to, with its inclusion of industrial land and open spaces - but overcrowding as measured by indoors living space gives not only not a positive correlation but actually a negative one, as Figure XXXI shows. (Not all census tracts were included in this survey, but it covered most of the city.) Once again a little consideration shows us that this is not so surprising, since we earlier noted that the relatively low rate China-town tracts were densely crowded slums, and they might be sufficiently dominant here to distort the rest of the picture. When we take these China-town tracts and treat them separately, however, the result is definitely surprising, for whether we measure overcrowding in terms of city area or in terms of floor space (Fig. XXXII) we find that in this relatively homogeneous area the more space people have the higher are their mental hospital rates.

I must confess I can suggest no explanation for these results. The disagreement between the finding on rental and the finding on population density is not the problem, for Goh suggests that rents may vary with recency of occupation (as we discussed earlier) and not so much with superiority of accommodation or increase in room area. Hence higher rental may be a rough measure of post-war mobility rather than anything else and this would agree with the negative correlation between the organic type disorders and five-year mobility noted earlier. But the Chinatown findings do not appear to fit any other relevant data. Inspection does not suggest an accidental reflection of percentage dialectal admixture, of difference in predominant dialect, of single-person households, or of the effects of slum clearance occurring before or after the survey, and while correction for differences in sex ratio reduces the range of rates somewhat this is not sufficient to disturb the relationship. One possibly relevant point is the distribution of 'kongsis', a special type of social unit to be discussed from another angle in Chapter 10, but on this I have no information. It would therefore appear that all we can say on this point is that if overcrowding has a deleterious effect on mental health that effect, as reflected in our data, must be slight compared to other factors. It is worth while repeating here that our contrast here is between marked overcrowding and less marked overcrowding, not between overcrowding and the relative isolation of residences which was discussed as a possible factor in the European women and in the Transitional area.

attaching the specific stresses involved, the problems of diagnosis and treatment services under such circumstances being largely, though perhaps unavoidably, palliative. These difficulties have not, to my mind, been adequately explored in the existing literature.

Conclusions

These being all the data on ecological distribution which I have thought useful or found possible to present for Singapore, the question now arises what relevance they have for wider socio-psychiatric theory. The first point to note is that the distribution of admission rates was found to be significantly non-random, a fact which may have been overshadowed by my doubts on the importance of neighbourhood as a social unit in Singapore. Singapore still posseses 'insanity areas' and conversely areas of unusually low mental hospitalisation incidence, and the finding calls for an explanation. Such explanation must, it would seem, fall into one of two categories. Either it views the geographic locality, with all its own social and physical features, as having an effect on mental health, or it views the locality as attracting or repelling, for reasons which have no connection with mental health, individuals of greater or lesser susceptibility to mental disorder. These are not mutually exclusive alternatives, but distinguishing between them has a practical as well as a theoretical importance and we may therefore spare a little time to discuss them. The practical importance lies in the following: if an area only attracts susceptible individuals, then the city health authority need merely be thankful that they have been so collected together, and concentrate its supportive and perhaps therapeutic services nearby. If the locality as a social or physical entity, however, has an adverse effect on mental health, then the health authority's proper function is the much more difficult one of seeking out and attacking the specific stressor involved, the provision of support and treatment services under such circumstances being largely, though perhaps unavoidably, palliative. These alternatives have not, to my mind, been adequately explored in the sociological literature.

The decision as to which alternative is the major one in a specific situation is not to be solved simply by asking whether the high rate populations comprise mainly people who have grown up in the locality or mainly people who have moved in as adults, assuming that in the former case the stressor must lie within the locality and in the latter case outside. It is possible that the stressor lies within the locality and yet affects only or mainly newcomers who have not learnt to handle it. Nor is the matter to be solved simply by checking whether there exists an unusual concentration of individuals who share exposure to some known external stress, an immigrant minority for instance. Where such an observation can be made it is useful, but our knowledge of stressors is still too slight for us to be able to say that when such an observation is not made the stressor must therefore lie within the locality itself. What is required is that specific hypotheses with regard to local stressors are invented, and means then found to validate or disprove them. This is the importance to preventive medicine of the social isolation and social organisation hypotheses.

The social isolation hypothesis, as first formulated, proposed that difficulties in achieving "an intimate social life" was a key factor in schizophrenia and that "where social contacts are adequate, the schizoid personality type is rare or completely lacking" ⁽⁵⁾. I have suggested that this hypothesis in its emphasis on schizophrenia is culturally limited, but that from the Singapore data it appears plausible with respect to the functional psychoses (schizophrenic and manic-depressive groups) generally. How this hypothesis relates to urban ecology, however, is not so convincing, even for the American cities for which it was primarily designed. The
any specific one.

assumption was that slums were areas of social disorganisation and that such disorganisation prevented social intimacy thus leading to the high schizophrenia rates which were in fact found in them. That slums are disorganised is quite questionable, however, and even if they were it is not clear why good organisation is needed for social intimacy - on the contrary, organisation may inhibit intimacy, as one finds in a bureaucracy, -so that it is not surprising that the hypothesis, as an ecological hypothesis, was upset by Gerard and Houston's findings (see p. 285). The social organisation hypothesis, at least in its less extreme form, offers a slightly different and more acceptable argument. Here the mediation of social intimacy (which Faris derived from his observations of the schizoid personality type) is not required, but instead it is assumed* that social institutions are usually helpful in the achievement of culturally determined goals, so that the greater availability and employment of such institutions will lead to less stress in individuals pursuing such goals, and hence to fewer failures or breakdown. Ecologically, therefore, the theory could apply provided units of social interaction tended to be geographically limited and provided the availability and employment of social institutions differed from one unit to another. In addition there is, of course, the assumption either that the whole population share the same cultural goals or that the efficiency of different institutions in relation to different goals can be compared. Less abstractly this means that localities in which common social institutions were fewer, less used, or frustrated in their operation would be more likely to show high rates of personal disturbance, including mental social unit, in Singapore there appears to me to be a weakness in the theory

* What follows here is largely my own formulation of what appears to be common to a number of socio-psychiatric studies, but not derived from any specific one.

generally which may be contributing to our negative results. Usually, it is disorder, than localities in which they were richly used, always assuming assumed to concern the totality of cultural goals and the totality of social that usage tended to go by locality. In Singapore, I have argued that, especially among the traditionally oriented Chinese, units of social interaction efficiency. Goals may be incompatible, or an institution may serve one tend to be city-wide and not localised, so that the theory's application is goal and hamper a different one, so that the relieving of one type of stress more limited. Nevertheless, it would appear to contribute a partial explanation accompanied by the increasing of another, perhaps falling on the same section in certain cases. In what I have called Transitional area, for instance, tion of the community but perhaps on a different section. I have tried to one might say that the population, being partly Westernised and by taking over offer illustrations of this differential process in previous chapters. In a European area showing some inclination to imitate the latter, had probably consequences, while the incidence of a specific type or of all types of partly broken with traditional institutions and goals. However, they also personal disturbance may on occasion be related to the availability of a special appeared to be distant geographically from the centres of the new common cul- institution the ability to predict such an association with reasonable accuracy and to have few of the specifically neighbourhood institutions which racy must depend on a knowledge of the relation between institutions and goals this new culture was developing. That, at least, is my conjecture. There was in that society. In a very homogeneous society, prediction may be easy: in a low employment of institutions geared either to traditional or to modern the very complex society which is Singapore, prediction must be very difficult. goals. At the opposite extreme, the hypothesis might also fit some low rate

Having rejected these hypotheses as explanations of the non-random tracts. In low rate tract 15, for instance, was a partly hereditary boat-distribution of mental hospital rates between Singapore tracts, it falls to building community which had occupied that location for about a hundred years me to produce some alternative. The only one which I will * offer is a very and which was very self-contained with regard to services. Many of the ship-simple one, conceived independently of my general conception of Singapore wrights lived across from their yards, and the petty industries serving them society, but fitting it.

took place in the shop-houses in the same streets. A high degree of local

If one recognises that choice of residential location in a highly interaction could therefore be assumed, higher than in most other quarters, mobile population like that of Singapore is partly determined by popular and the quite unusually low incidence of mental hospitalisation from these ideas concerning desirability, either among society as a whole or among spe- streets would on this hypothesis be related. However, these are exceptions. cial interest groups or strata, then it is clear that a factor differentiating For Singapore in general, the expected correlations which the theory would local populations will be the ability to compete successfully for accommoda- predict have not appeared. Besides the weakness of the neighbourhood as a tion in popularly preferred locations. In some societies this may mean merely social unit, in Singapore there appears to me to be a weakness in the theory the ability to bid more through highly organised marketing channels. Where

* It was partly uprooted soon after the period we are considering.

generally which may be contributing to our negative results. Usually, it is assumed to concern the totality of cultural goals and the totality of social institutions, but that seems to imply a rarely obtainable degree of social efficiency. Goals may be incompatible, or an institution may serve one goal and hamper a different one, so that the relieving of one type of stress is accompanied by the increasing of another, perhaps falling on the same section of the community but perhaps on a different section. I have tried to offer illustrations of this differential process in previous chapters. In consequence, while the incidence of a specific type or of all types of personal disturbance may on occasion be related to the availability of a special institution the ability to predict such an association with reasonable accuracy must depend on a knowledge of the relation between institutions and goals in that society. In a very homogeneous society, prediction may be easy; in the very complex society which is Singapore, prediction must be very difficult.

Having rejected these hypotheses as explanations of the non-random distribution of mental hospital rates between Singapore tracts, it falls to me to produce some alternative. The only one which I will offer is a very simple one, conceived independently of my general conception of Singapore. To the London East-ender, social neighbourhood is important, what Young and Wilmott call matrilocal residence, and competition fiercer. It is different from Singapore, but one would expect the effect on tract mental hospitalisation rates to be similar, since those with the better social skills or networks ideas concerning desirability, either among society as a whole or among special interest groups or strata, then it is clear that a factor differentiating is fairly high, one should find an accumulation of individuals with good social relations and skills in certain locations and persons with poor relations and skills in other, the undesirable, locations.

If one recognises that choice of residential location in a highly mobile population like that of Singapore is partly determined by popular ideas concerning desirability, either among society as a whole or among special interest groups or strata, then it is clear that a factor differentiating is fairly high, one should find an accumulation of individuals with good social relations and skills in certain locations and persons with poor relations and skills in other, the undesirable, locations. the ability to bid more through highly organised marketing channels. Where

the marketing is not organised, however, or where cheapness is an important attraction, then it is not a matter of bidding higher for advertised room, but of having the means of knowing when preferred accommodation is about to fall vacant, and having the ear of the owner or agent. Areas regarded as desirable will therefore tend to gather individuals with either a wide network of friendly contacts or with superior skills in making the type of relationships necessary. But we have already seen that such advantages are probably a protection also against the social stresses likely to lead to mental disorder, and, conversely, the person with a predisposition to mental disturbance is the more likely to be inefficient in such relationships. In a society like the traditional Chinese, where chains of relationships constitute the major part of one's society, such a selective action is going to be most noticeable, but the phenomenon is not confined to the East. In Bethnal Green

"mothers help in the same way to get houses for their daughters. When one of them is going to get married, the mother makes it her business to know about all impending vacancies. She asks neighbours, she asks other relatives of hers, she asks her own rent collector and others in the street, she asks the publican and the shopkeepers, she asks the estate agents."
. . . . "If you're living in these buildings, it just goes on and on. If you've got any daughters getting married, they get a flat. Outsiders don't get it. It's all in the family." (37)

To the London East-ender, social neighbourhood is important, what Young and Wilmott call matrilocal residence, and competition fiercer. It is different from Singapore, but one would expect the effect on tract mental hospitalisation rates to be similar, since those with the better social skills or networks will tend to get priority. Wherever such a principle operates and mobility is fairly high, one should find an accumulation of individuals with good social relations and skills in certain locations and persons with poor relations and skills in other, the undesirable, locations.

Chapter 3

That is the hypothesis, recognising that there will be a blurring of the pattern as popular ideas of desirability change, but people react at different rates. To support it from Singapore, it is necessary both to know the popularly perceived characteristics of different areas, and to know what different groups consider as desirable; and such knowledge I do not possess. The matter therefore remains pure conjecture, but I submit that it is a plausible conjecture and a testable one. In terms of neighbourhood social structure, the result of such selection will tend to be the development of more efficient social organisation in the one locality than in the other because of the more efficient individuals or primary groups involved. However, from a practical point of view the primary factor is the attractiveness of the area, a matter which may be more susceptible to social engineering than some other factors we have been considering.

(8)

stresses natural selection of the unfit, (11,12)

the main American studies stress the influence of class structure as such

What is relevant for us here, however, is that both in Europe and in America the relationship between psychosis incidence and class gradient is still very firmly established, despite the onslaught of a quite ingenious variety of approaches. Moreover, theories tend, while still quite tentative and various, to remain compatible with each other, and to be built up rather than destroyed by successive studies. Hence we do have here, at last, something fairly concrete to grip on.

Chapter 8

OCCUPATION, EDUCATION AND SOCIAL CLASS

In the subject of the present chapter we have an interesting example of the influence of popular ideology on research. As we noted, the first socio-psychiatric fields to receive multiple investigation were the quite complicated ones of immigration and urban ecology, fields which have yielded doubtful results even when confined to one culture. At the same time as they were being opened up, however, there existed definite pointers to a more accessible, important, and apparently more simple relationship which nevertheless received no real attention until the present decade, when it has suddenly become the subject of much activity. The field was that of social class. Its relative neglect earlier can be attributed, I think, to the fact that until recently class structure in Europe was being taken for granted and in the United States was being ignored, whereas the present activity seems related to American admission that classlessness is a myth. Ideologically, it is also interesting to note that whereas the main European approach to the question today (8) stresses natural selection of the unfit, (11,12) the main American studies stress the influence of class structure as such. What is relevant for us here, however, is that both in Europe and in America the relationship between psychosis incidence and class gradient is still very firmly established, despite the onslaught of a quite ingenious variety of approaches. Moreover, theories tend, while still quite tentative and various, to remain compatible with each other, and to be built up rather than destroyed by successive studies. Hence we do have here, at last, something fairly concrete to grip on.

At its broadest the finding is that the incidence of psychosis tend to show less conformity in these intermediate categories (or alter- in the highest social class is lower than that in the lowest social class, natively neglect to present their detailed findings), and when occupation irrespective of what indices and status definitions are used. I know no is the main class indicator the question must sometimes be (18,19,24) Western study which disputes this fact, and data from Norway the bet (23) use variation is (7,20) in the within-class one*. At Germany (3,5), England and Wales, and from urban and rural United States etc., and even, in a limited way, from Japan*, all support it. It is true whether one takes only mental hospitalisation, includes cases under occupation, etc., stand out from the general trend, the notable case being private psychiatric care, or even attempts to estimate the prevalence of that of the professionals and semi-professionals. In most cases it is latent pathology in a sample population not seeking psychiatric help at all. schizophrenia which contributes most to the variation, with the affective When only mental hospitalisation is considered, then not only the highest psychoses contributing least so that it is especially the schizo/affective and lowest classes, but also the intermediate may show the same trend. For ratio which varies, but this is not always the case. Regarding the age- instance, among the Chicago White population the age-adjusted incidence of roses, which less agreement is found among the few studies which have included hospitalised psychoses (both state and private hospitals being included) than, some suggesting that their incidence varies inversely with class while others suggest that they vary positively, the up (3) has having been the correlated -0.83 with prestige ranking and -0.75 with income ranking when no less than 17 occupational categories were used. In Ohio, similar- ly, state hospitalisation for the major mental disorders correlated -0.81 with prestige and -0.71 with income when 12 occupational categories were (5) used; and in Britain a high correlation also seems possible. On the and what aspect of it is most relevant to mental disorder. Basically, (11,12,21) other hand studies which employ more complicated indices of mental health term applies to one type of social evaluation wherein a person is regarded

* As the English translation of the interim report on this Japanese prevalence survey is not easily available, it may be of interest to quote their findings, which are as follows (16):

Income Group (in Yen)	All Psychoses		Neuroses and Psychopathy	
	N.	Rate	N.	Rate
0 - 2000	43	6.3	21	3.1
2001-3000	42	5.8	22	3.1
Over 3000	39	3.9	30	3.0

* Marked within-class variation does not negate the between-class one, but it does suggest that class as such is not important in comparison to some other variable(s) being tapped.

tend to show less conformity in these intermediate categories (or alternatively neglect to present their detailed findings), and when occupation is the main class indicator the question must sometimes be raised whether the between-class variation is greater than the within-class one*. At times this may be due to dealing with too small numbers, or to some fault in design, but at other times it seems as though certain categories of occupation, etc., stand out from the general trend, the notable case being that of the professionals and semi-professionals. In most cases it is (2,18,20) schizophrenia which contributes most to the variation, with the affective psychoses contributing least so that it is especially the schizo/affective (22) (4) ratio which varies, but this is not always the case. Regarding the neuroses, much less agreement is found among the few studies which have included (7) them, some suggesting that their incidence varies inversely with class/while (11) others suggest that they vary positively, the upper classes having then the higher rates. Despite these exceptions, however, the broad relationship between social class and psychosis in Western cultures is clear.

What is not so clear is what we imply by the term social class, and what aspect of it is most relevant to mental disorder. Basically, the term applies to one type of social evaluation wherein a person is regarded not so much as a complete individual but rather as the holder of a socially significant role or member of a socially significant group (1). It is, in other words, a way of answering the question, Do we judge X to be higher or lower than Y in terms of certain values which their principal social roles

* Marked within-class variation does not negate the between-class one, but it does suggest that class as such is not important in comparison to some other variable(s) being tapped.

or group memberships carry. But one may question whether it is this assessment of a person by society (including himself, usually) which plays the major part in the relationship to mental disorder. Class involves many other things. It involves differences in occupation, in income, in education, in the persons with whom one associates, and in one's general, social and physical environment. Moreover, it may involve different cultural norms, the differential accessibility of certain social institutions, or a different relationship to people even as close as one's parents. Among these co-variants income and occupation can easily involve differential physical effort and may involve differential mental effort, both of which can, in turn, affect mental disorder. Differences in cultural norms certainly, as we have seen, tend to modify liability to mental breakdown, and differences in accessibility of social institutions may also do so. Education can affect both the skill with which one handles problems and the degree to which one perceives them. One's station in society, one's social class, thus determines much of the social and part of the physical environment which one may be surrounded from birth on, though it need not do so in the same way in every culture. Moreover, social class is not stationary, but to a limited degree can be affected by one's own actions, so that where there is much competitive social mobility one's position at any moment may reflect not so much a state to which one was born and in which one has grown up (as has been largely inferred above) but rather personal abilities and attainments. It can be seen, therefore, that the problem of disentangling factors and modes of influence is potentially very complex.

Existing theories on the apparent relationship between mental dis-
tinction, I think we can see three main ways in which this factor could
order and social class can, I think, be seen as following three main lines,
work. First, we may see the simple perception of the evaluation as
competitive but not necessarily mutually exclusive. The first of these
leading those low in the social scale to have a poor belief in themselves
attributes the relationship to natural selection, alleging that where
and those high in the scale to have a more confident one. As Merton says
vertical mobility exists, as it does in all class as opposed to caste sys-
tems for the United States culture:

the less stable and less able both fail to climb upward and tend to
move downward. After a time, therefore, the lowest social strata are
supposed to accumulate an excess of the weak while the highest become

inhabited only by the most able - a comfortable doctrine for its academic
Such strength or weakness in self-belief could, presumably, affect both (2,3)
and medical proponents. This was the view offered by Clark in Chicago,
resistance to (7) mental disturbance and reading (18,19)
Hare in Britain/and most recently by Odegaard in Norway. It is opposed by
determination, as was discussed in the Introduction (p. 24). However, in
other writers not so much out of frank disbelief as from a strong preference
addition to this social and personal evaluation there is usually some
for its main rival; however, it does, as we will see, prove rather unsatis-
social expectation involved, and it could be this rather than the simple
factory for explaining certain findings. Most opposed to it is the second
perception of status which was the main stressor. Merton's garbage collector
hypothesis, which views social stratification not as a passive vehicle
was not only adjudged the 'lowest of the low', he was expected to better his-
whereby men rise or fall, but as a major and active part of the environment
self. Such an expectation pressing on the individual could be a considerable
affecting the individuals whom it encompasses, independently of their abil-
stressor if either the social means for accomplishing the expectation were
ity or stability. The proponents of this hypothesis are interested in
withheld or the activity expected were beyond the individual's powers.
social stratification and social relationships as such - Hollingshead has
Thirdly, there seems to me the possibility of social stratification acting
written several works on stratification - and for them society's attitudes
as a stressor not by frustration of expected action but by the very opportuni-
towards the individual are potential stressors which can lead to mental
ty which it offers for action, whether socially expected or not. In a highly
breakdown in people who would not have broken down if the social attitude
mobile society (8,11,12,21) her ranks are better rewarded than the lower
had been otherwise. In this hypothesis, therefore, it is the evaluation of
ones - and every persisting society must do this if the roles most profitable
a person in terms of his principal social role or membership which is the
to it are to be filled - the person high on the ladder has not much more to
key factor. However, although most discussions do not mention the dis-
strive for whereas the bottom man sees much he can aspire to. Hence quite

independently of expectations the lower class may be tempted to strive

beyond their powers, with resultant excess breakdown, whereas the higher

inction, I think we can see three main ways in which this factor could the work. First, we may see the simple perception of the evaluation as leading those low in the social scale to have a poor belief in themselves and those high in the scale to have a more confident one. As Merton says for the United States culture: of proposed explanations attribute the ob-

"A garbage collector who joins other Americans in the view that the garbage collector is the 'lowest of the low' can scarcely have a self-image that is pleasing to him; he is in a pariah occupation in the very society where he is assured that 'all who have genuine merit can get ahead'". (17) class in Western cultures - education, occupa-

Such strength or weakness in self-belief could, presumably, affect both resistance to peripheral mental disturbance and readiness to resign self-determination, as was discussed in the Introduction (p. 24). However, in addition to this social and personal evaluation there is usually some social expectation involved, and it could be this rather than the simple perception of status which was the main stressor. Merton's garbage collector was not only adjudged the 'lowest of the low', he was expected to better himself. Such an expectation pressing on the individual could be a considerable stressor if either the social means for accomplishing the expectation were withheld or the activity expected were beyond the individual's powers. Thirdly, there seems to me the possibility of social stratification acting as a stressor not by frustration of expected action but by the very opportunity which it offers for action, whether socially expected or not. In a highly mobile society where the higher ranks are better rewarded than the lower ones - and every persisting society must do this if the roles most profitable to it are to be filled - the person high on the ladder has not much more to strive for whereas the bottom man sees much he can aspire to. Hence quite independently of expectations the lower class may be tempted to strive beyond their powers, with resultant excess breakdown, whereas the higher

class have much less to tempt them. All three of these hypotheses see the social structure as the stressor (or protector), but I think it useful to distinguish between them because it seems probable that they would predict different results.

The third main group of proposed explanations attribute the observed relationship not to differential individual stability or to the stratification system as such, but to different factors which we noted earlier to be co-variant with class in Western cultures - education, occupation, income, etc.^(4,11,16) I have not found any of these to be suggested as adequate explanations for prestige-correlated differences persisting throughout the social scale, but it is easy to imagine one or other being a potent factor in differentiating the rates of the lowest class from the highest; and as we have seen, this is the one constant feature of existing findings.

The majority of writers on these matters have sought to explain a single set of data in terms of one main hypothesis and have neither discussed other people's findings nor sought to manipulate their own material in such a way that a choice between competing explanations can be facilitated. Yet, the richness of existing studies do permit a considerable degree of testing and I think it may be useful here to consider the implications of certain findings for the various theories before passing on to the Singapore material.

Chronologically, the first finding of importance in this field related to the schizo/affective ratio⁽²²⁾; and it has frequently been observed since Stern's time that it is schizophrenia which tends to vary with social class, while the manic-depressive psychoses either fail to do so or, as in Britain, do it to a lesser degree. None of the sets of theories discussed above can be said to have this finding as a primary prediction, although

auxiliary explanations have been used to permit its inclusion. Considering the concept of natural selection first, the schizoid drift hypothesis, which has been discussed in previous chapters, leads one to expect schizophrenic patients - or at least, one type of schizophrenic patient - to have changed jobs prior to breakdown more frequently than most other types of patient; but I do not see that this should mean that they are in that prodromal period so much less efficient than other patients. Furthermore, since the affective psychoses are not less affected by inheritance than schizophrenia - some writers state they are more so - if one thinks of the downward drift of the unfit in terms of successive generations rather than of individuals there is still no reason why these psychoses should not be affected just as much as schizophrenia, if the natural selection hypothesis were true. In answer it has been argued that the sedimentation effect exists for these psychoses as much as for others, but is masked by a greater tendency towards them in the upper classes owing to education or some cultural factor (or it has been said that the schizophrenic diagnosis tends to be converted into a manic-depressive one for upper class patients because of the different prognostic implication), but it has not been proved that these effects are strong enough or universal enough to account for all indices where the schizo/affective ratio varies with class.

For the other hypotheses difficulties in explaining this finding depend largely on what theories of psychiatric causation one holds. If one believes that depression is often caused by loss of self-esteem and that the ^{social} major factor in schizophrenia is (as Faris argued) cultural or social isolation, then no hypothesis which I can think of would account for the finding; on the contrary what we may call the perceived evaluation hypothesis

would lead one to predict quite the reverse, the lower class showing most depression. On the other hand if one believes the affective psychoses to be largely related to loss of emotional and social contacts, while schizophrenia arises mainly out of unsolvable frustrations (e.g. the "double bind" theory) then the finding fits very well with the social expectation hypothesis, provided one can assume that such expectations and frustrations weigh more heavily on the lower classes than on the upper. I do not believe the latter assumption to be necessarily true, but it may apply in cultures such as the American. Equally applicable, given the presumed relationship between frustration and schizophrenia, are hypotheses emphasising income level, job satisfaction, and possibly education (if it provides increased skills for solving frustrations). The idea of temptation to overstrain oneself, on the other hand, seems less suited to explain the emphasis on schizophrenia, since one would expect breakdowns here to occur mainly in later life, when schizophrenia is less important.

The question of age and sex incidence of the maximum class differential is the next point we may take up, depending on British figures for the one and Odegard's calculations for the other. On these points it seems to me that different hypotheses do predict quite different results.

Natural selection and tempted over-exertion, for instance, might be expected to show their effects most in old age or just before retirement, and least in youth, since in the one case many years have elapsed in which to achieve or suffer social mobility, and in the other few. Similarly, one would

* In the New Haven study it was noted that "Occupational aspirations were expect them to affect married men much more than married women, since social among the men". The wives "wanted more money, shorter hours, higher status status for the latter, once competition for a mate is over, depends much

more on the ability, stability and exertions of her spouse than on herself.

The impact of self-evaluation, education, and social frustration, on the other hand, seem likeliest to be at their maximum in youth or when youth's hopes for easy change are past; and they would seem to affect the woman almost as much as the man, at least in Western cultures where sensitivity to social evaluations and expectations is usually as great in the wife as in the husband*. Poverty, finally, seems unlikely to affect one age or one sex more than another, unless it be the parents of a young family. The actual findings are quite clear. In Britain, as Fig. XXXVI shows, class specific rate differences are greatest before the age of thirty and almost disappear in old age⁽²⁰⁾. In Norway Odegaard's age curves are less easy to interpret, but mostly agree, and he provides us with the important fact that status-specific rates for wives categorised according to the occupations of their husbands show as great a range as the married men's rates and correlate 0.87 with them⁽¹⁸⁾. This correlation is actually higher than that between married men's and single men's occupation-specific rates, suggesting strongly that occupation stresses and work satisfactions are not a major factor here.

These findings on diagnosis, sex, and age, appear to weigh quite heavily against natural selection as an adequate explanation for class-specific rate differences, and, of the other hypotheses which we have considered, to favour most those relating to social frustrations and education. Other data, however, make the matter less simple. For instance,

* In the New Haven study it was noted that "Occupational aspirations were stronger among Class V women, both patients and spouses of patients, than among the men". The wives "wanted more money, shorter hours, higher status jobs for their husbands and 'a better shake for the kids'" than did their men⁽¹⁰⁾.

the natural selection hypothesis gains new life from the Yorkville study which reports that 26% of the downward moving section of their sample were "seriously disturbed" in terms of their criteria, as compared with only 17% of the non-mobile and 12% of the upwardly mobile⁽²¹⁾. These, however, were people not in hospital and not seeking treatment, and when we turn to the New Haven findings on schizophrenics under treatment or custody, we get just the opposite result. There the authors found no difference in social mobility between patients and a control sample when both came from the lower class, and for the middle class it was found that the patients had significantly more upward mobility than the controls⁽¹⁰⁾. Again, while most writers emphasise schizophrenia, Dayton's Massachusetts figures apparently suggest that certain organic type disorders were the most affected when income and education groups were compared⁽⁴⁾, which I would take as suggesting the over-exertion hypothesis. Such variations could be explained by assuming the additional effects of secondary factors obscuring in part the main trend, or less attractively, by concluding that what we observe is the sum of many factors none of which can be considered either primary or universal. In general, however, there seem grounds for believing that the attitudes germane to social stratification do have an influence on mental health. This is of more importance than any evidence we may educe for the natural selection hypothesis, since with the former we suspect the existence of an environmental factor whose influence we may be able to mitigate, whereas with the latter we have merely the concentration in certain strata of individuals who would have broken down in any case.

⁽³⁾
in the Chicago study, for instance, separate categories for Major Salesman

and for Salesman. I am filled with Approach if the author was able to assure me. The calculation of class-specific rates of psychosis, etc., is a much more difficult and usually more dubious procedure than the calculation of the tract-specific or nativity-specific rates which concerned us in previous chapters. In the first place there is the problem of defining the class structure, perhaps not too difficult in well-unified and well-studied Western countries but a considerable problem in many-cultured Singapore. It was not difficult in cooperation with a few English-educated Asian colleagues to arrive at the social structure and prestige ranking as we saw it, but it was impossible to know how far other groups saw things in the same light or how far there was a complete consensus in this matter in all the vertical divisions which Singapore society shows. I possess some quantitative data on the attitude of high school and university students in this matter, but these were all English-educated as well and in more traditional groups of immigrants rather different attitudes probably held. Still, this point is not the real difficulty, for the reader can see what I have done and can agree or disagree. Much more serious, and affecting Western studies as much as Singapore, are the potential distortions concealed in the problems of category definitions and of large unclassifiable remainders. The first point should be obvious, but few writers admit its seriousness or state how they have handled it. If one has to use, as is common, two or more sources of data on matters like occupation, education or income, then it is rare that exactly the same classification will have been used officially for each and rarer still that the recording clerks or census takers will seek precision and additional information in the same way. One finds in the Chicago study⁽³⁾, for instance, separate categories for Major Salesman

and for Salesman. I am filled with admiration if the author was able to assure himself that as between these two groups patients were always classified in hospital as they would have been at the census. But the second point is less well recognised and in consequence probably more dangerous. If we consider most published occupation-specific rates, then we find that along with the true occupational groups are such categories as pensioner, retired, student, and unemployed, plus the inevitable (if we are dealing with major mental disorder) moiety on whom the information was unobtainable. In the previous chapters I have assumed that persons of unknown residence, for instance, are not more likely to come from one district of the city than from another, but such an assumption is not appropriate to the present case. Each of these unclassifiable categories tend to derive from one social class or occupation rather than from another. For instance, retirement probably occurs at an earlier age in clerks than in farmers, in upper class administrators than in the lower-middle class artisans. Pensioners will tend to consist of the employed, especially the government employed, and to contain within their ranks almost no small shopkeepers or independent craftsmen. Students are more likely to come from the upper class than from the lower, so that the duration of being in a classifiable occupation is shortened for members of the former class. All these points will distort our rates unless we are fortunate enough for the factor to be operating identically at the census (or other source of population data) and in the hospital or unless we can direct the enquiry to patients and non-patients ourselves. With the categories of 'unemployed' or 'unknown occupation', however, we cannot even hope for census and hospital limitations to be operating the same way since different classes of

patient, all, strictly speaking, unemployed from the moment of hospital admission, will have different attitudes towards the question 'What is your job'. A professional man will always tend to call himself a lawyer, etc., whether he has recently been in practice or not, and the merchant will probably continue to call himself merchant long after the running of the business has been taken over by his son. To a lesser extent the middle class craftsman will continue to call himself employed for some months after ceasing work, as long as his employers retain him on their rolls. But the labourer will tend to call himself unemployed soon after leaving his job, and on the surface of a disturbed mind the identity fragment "I am a dock labourer" is far less likely to remain than the fragment "I am a wealthy merchant". Hence we may expect these 'remainders' to consist disproportionately of the lower class, but how disproportionately we cannot say.

Another problem exists in the frequent changes of occupation or of income status which quite commonly precede mental hospitalisation, a problem probably of greater importance in a highly mobile population than in a closed society. Sunby found that a considerable proportion of the so-called seamen patients in Norwegian mental hospitals were only seamen by courtesy, having had many occupations. Accordingly, Odegaard has argued

that one should seek to record for mental patients not the last occupation at time of admission or referral, but the occupation at onset of the present attack. However, he does not state how this was applied in practice or how

close his psychiatrists were in agreement as to when the present attack of

for occupation at.....	Onset of attack	Admission	Difference
Seamen	154.4	163.7	+9.3
Rural Labourers	108.7	117.3	+8.6
Salesmen	66.5	70.8	+4.3
Professions and Higher Officials	76.8	70.4	-6.4
Farmers	76.0	63.8	-12.2

psychosis should be considered to have begun*.

These illustrations have all related to occupation, but similar ones could be provided for any of the other ways of approaching social class. For rental, for instance, we saw in the previous chapter how mobility and length of residence could affect it, and we will see shortly some difficulties connected with levels of education. My point at the moment is that for any studies of this kind the possibility of distorted data should be kept well to the front of one's mind. Such distortions are not likely to affect the appearance of broad trends, but they are likely to affect any more detailed interpretations we may wish to make. For the Singapore patients only two indicators of social class were usefully available. In 79% of male first admissions occupation was recorded and in a special sample of 598 cases classification for educational level was attempted by either Dr. Brown (the admitting psychiatrist) or by myself. Occupation is a poorer indicator of social class in Singapore than it is in the West, and augmentation by income level would have been a valuable aid had it been available. Education parallels occupation to some extent since it is impossible to enter the professions or civil service without an English education, while to be illiterate is a clear limitation,

* Actually, in Odegard's own data the difference between calculating occupation from onset of attack and from admission is not great, most occupational categories showing almost no difference in rates. However, the difference does affect groups at the top and bottom of the social scale; viz.: (18)

Rate calculated for occupation at.....	Onset of attack	Admission	Difference
Seamen	154.4	163.7	+9.3
Rural Labourers	108.7	117.3	+8.6
Salesmen	66.5	70.8	+4.3
Professions and Higher Officials	76.8	70.4	-6.4
Farmers	76.0	63.8	-12.2

at least for males; but some interesting differences nevertheless appear. It was the calculation of occupation-specific rates which gave the greater trouble and we will consider these first.

The 1947 Census recorded occupation (independently of industry) for the whole population, tabulated by sex and main ethnic group. The categories used there, however, have been criticised as being more relevant to an industrialised Western country than to a location where large industry was scarce, trade unions were weak, and one-man or one-family businesses were common; and the year 1947 was not representative, being too close to the end of the War. As a second source the 1953 Social Survey yielded, on special analysis, a breakdown of occupations by ethnic group, sex, age group, and by nativity, but this time only city residents were sampled and the upper 17% income bracket was excluded. Since neither source was really satisfactory, therefore, they were augmented by data taken from Government departmental reports, the registers of the professional bodies, and city registers of hawkers, trishamen and taxi drivers. In addition, estimates were obtained from trade union sources from the Departments of Labour and Welfare, and from a number of other sources such as the city market superintendents regarding unlicensed hawking. By collating all this material and relating it to certain known population trends it was possible to arrive at what seemed satisfactory estimates of the male population in most occupational categories, especially after amalgamation had been effected of certain categories in which an overlap in definitions was apparent. There remained, however, certain categories where the discrepancies between different estimates seemed too great, and these - seamen, for instance - have been excluded. Ethnic distribution and, for the final categories, broad

age grouping were then estimated in a similar fashion. After these categories had been compared with those used by the hospital, and possible discrepancies in definition searched for by the reading of case records, further amalgamations were effected where overlap of definitions seemed probable and a resultant list of about twenty-five categories was obtained. These have been still further reduced for ease and logic of presentation, but in the last process smaller groups which might have seemed suitable for amalgamation with others have been kept separate where a marked difference in rates was evident. For instance, domestic servants have been kept separate from other personal services and teachers from other professionals. This was done partly to avoid a spurious smoothness in the results but partly also because of the special interest which the variations held. The mean income levels shown in Table 45 were taken from the Social Survey⁽⁶⁾, which took great trouble to arrive at true results in this matter, while the prestige ranking and division into classes was effected with no greater authority than my own impressions and those of some colleagues. In this last step rural occupations were excluded since the low rates of rural dwellers would have been confusing, quite apart from the difficulty of defining the class of the small padi grower, for instance. No allowance in the final rates has been made for pensioners, etc., or for the 21% whose occupation was not recorded, and no female rates were attempted since it was found that the hospital usually did not enquire about occupation at all from women.

Regarding educational level no source of population data, strictly speaking, gave information at all, but the 1947 census recorded literacy in three separate languages, namely English, Malay, and any other language, the census takers being given simple tests and rules to follow. For the patient

sample, on the other hand, it was schooling which was recorded (I had hoped to obtain such information on a population sample also, but it did not eventuate) under seven possible categories. Strict comparison is therefore impossible. In practice, however, I think they can be matched with moderate confidence if one pairs literacy in English with education at an English-language school, literacy in any other language with education in any other type of school, and illiteracy with absence of schooling. It is easy to bring to mind specific instances where such an equation would be wrong, but I suggest that most such cases cancel out. There are people who are literate without official schooling but also (as I know from the delinquency case reports) those who were put to school for a couple of years but who are illiterate today. There will be people who learnt English only at a vernacular school, but against them we have youths, aged about 15 in 1947, who were then literate only in a vernacular but who later attended an English language school and hence would be put in the last category if they appeared in the hospital sample. In the calculation of rates patients aged 15-20 have been excluded since their type of schooling and literacy could so easily have been changed since their childhood in 1947, but for the great majority of the remainder I think it can be presumed that their formal educational state in 1953-54 would be about the same as in 1947. Only Chinese data will be considered in the final presentation since the number of patients of other ethnic groups included in the sample were too few to permit the separate age-specific rates which seemed necessary for this topic.

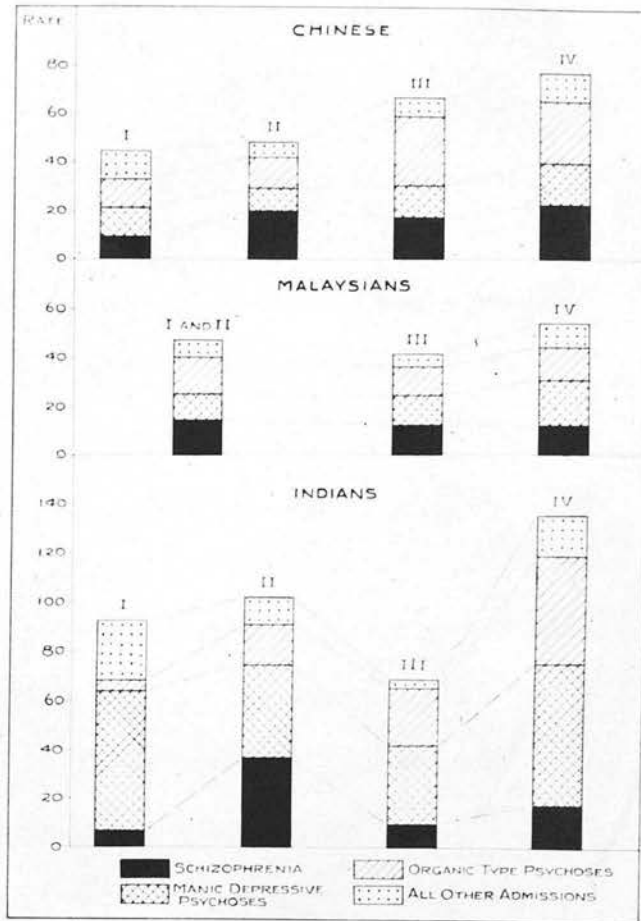


FIG. XXXIII. Comparative incidence of Mental Hospitalisation and of Four Diagnostic categories by Social Class in three Singapore ethnic groups; males only, adjusted for age. (For definitions of social classes see Table 47 and footnote.)

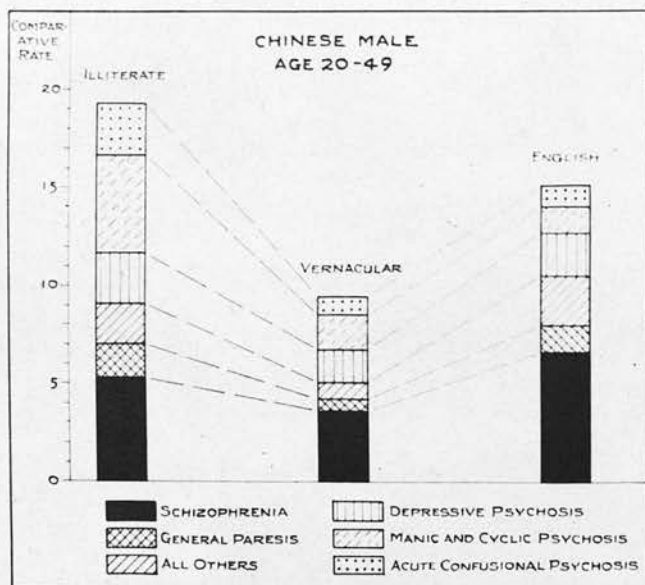


FIG. XXXIV. Comparative incidence of Mental hospitalisation and of certain Diagnostic Categories, by Level of Education, for Singapore Chinese males aged 20-49 only. (For means of comparison see text.)

Results

Table 47 shows the occupational categories finally chosen and their allotment to strata or classes, while Figures XXXIII- XXXVI summarise the main findings. Since Singapore is so complex a society it was in this case only confusing to try and treat it as a whole here, but when we divide it into the different ethnic groups considerable differences in pattern appear. On first glance all ethnic groups charted, as well as the Europeans and Eurasians, appear to conform to the Western pattern, since in all three the highest occupational stratum has the lowest mental hospitalisation rate. This is quite important, arising in so different a situation from that in which the original finding was obtained, but what is more important is that considerable and significant variations appear when we look further into the details.

The Chinese conform best to expectations, their occupational strata showing steadily rising rates with declining social class even when we divide them into different age groups/ (allowing for chance variation).
Fig. XXXIII
All main categories of disease take part in the trend and when we consider not the broad strata but more specific occupational categories a significant inverse correlation with prestige ranking appears. Only when we stratify them by education (in a way which would, I think, be acceptable to themselves, since only 15% of vernacular-educated patients went to high school compared with 69% of English-educated) does a discrepancy appear, (Fig. XXXIV & XXXVI with the English-educated males having generally higher rates than the vernacular-educated. (The female English-educated patients were too few for the curve presented here to carry much significance, but it shows the same tendency.) Yet there can be no doubt that class gradient for this people

URBAN CLASSES AND OCCUPATIONS (Short Title)*	Est. Prestige Ranking	Soc. Survey Sample Average Income	Esti- mated Pop.	First Admis- sions	Crude		Crude Rates by Main Ethnic Group			
					Rate	S.E.	Chin.	Ind.	Mal.	Eur. & EA
SOC. CLASS I		\$\$\$	'000s							
1. Management and Trade	2		22.25	79	35.5	4.0	31.4	34.8	85.7	90.0
2. Teachers	3		4.0	30	75.0	13.7				
3. Other Professions	1		1.25	6	48.0	19.5	71.4	147.1	66.7	
SOC. CLASS II										
4. Office Workers	4	240	31.0	177	57.0	4.3	50.8	100.0	41.2	66.7
SOC. CLASS III										
5. Police, Post- men and Firemen	6	190	5.2	28	53.9	10.2	80.0	66.7	48.0	45.6
6. Artisans	5	149	18.0	160	88.9	7.0	85.4	96.7	(110.0)**	200.0
7. Drivers	7	147	13.0	87	66.9	7.2	84.6	78.6	35.4 **	133.3
8. Personal Services	8	135	21.3	116	54.5	5.1	59.4	50.0	28.0	
9. Shop Assist- ants	9	127	25.0	194	77.6	4.5	79.1	70.0	50.0	100.0
10. Domestics	10	117	10.0	34	34.0	5.8	25.0	100.0	25.0	
SOC. CLASS IV										
11. Trishamen	13	135	5.0	47	94.0	13.9	95.0	-	85.7	
12. Hawkers	11	127	17.0	119	70.0	6.4	67.3	114.3	33.3	
13. Labourers	14	118	55.6	507	91.2	4.1	76.5	178.0	74.2	
14. Messengers and Watchmen	12	102	7.3	36	49.3	8.2	91.7	53.8	18.2	
RURAL GROUP										
15. Fishing and Agriculture			25.0	112	44.8	4.2	46.8	-	41.5	

TABLE 47. Estimated Male Populations, First Admissions to Mental Hospital, and Rates of Mental Disorder by Occupational Category and Social Class; Singapore, 1950-54. Cases include only those for whom a definite occupation could be attributed. Sample average income from (6). Method of deriving estimated population described in text.

* See p. 351b for reference.

** See p. 351b for reference.

** Note for Malaysian artisan group probably exaggerated by confusion between drivers and mechanics; hence artisan rate should probably be lower and driver rate higher.

* Short Title

Census Categories

1. Management and Trade: Owners and management of industrial, wholesale, retail and other businesses, bankers and senior insurance officials.
2. Teachers
3. Other Professions: Lawyers, doctors, dentists, veterinaries, clergy.
4. Office Workers: Middle grade government officials, secretaries, clerks, draughtsmen, journalists, artists, telephonists, nurses and other medical auxiliaries.
5. Police, Postmen and Firemen
6. Artisans: Skilled and semi-skilled mechanical and electrical workers, watchmakers, goldsmiths, printers, photographers, bookbinders.
7. Drivers: Drivers, conductors, railwaymen, and operators of stationary engines.
8. Personal Services: Tailors, dressmakers, textile workers, cobblers, leather workers, laundrymen, hairdressers, hotel and restaurant keepers, entertainers and undertakers.
9. Shop Assistants: Assistants in retail shops, waiters, barmen; not cleaners.
10. Domestics: Servants in private homes and hotels, excluding waiters.
11. Trishamen
12. Hawkers: Hawkers, vendors, pedlars, tinkers; ambulatory or in markets.
13. Labourers: Stevedores, warehousemen, semi-skilled and unskilled labour, lime, coal and gas workers, rubber processors, quarry workers.
14. Messengers and Watchmen: Includes office boys, ushers and light cleaners.
15. Fishing and Agriculture: Fishers, smallholders, poultry and pig farmers, land workers, rubber tappers.

NOT INCLUDED are: Students, pensioners, retired persons; sailors (who may get hospitalised elsewhere); building and wood workers (census figure too different from other estimates); accountants, architects and government senior officials (tendency for patients to exaggerate their status in favour of these categories).

** Rate for Malaysian artisan group probably exaggerated by confusion between drivers and mechanics; hence artisan rate should probably be lower and driver rate higher.

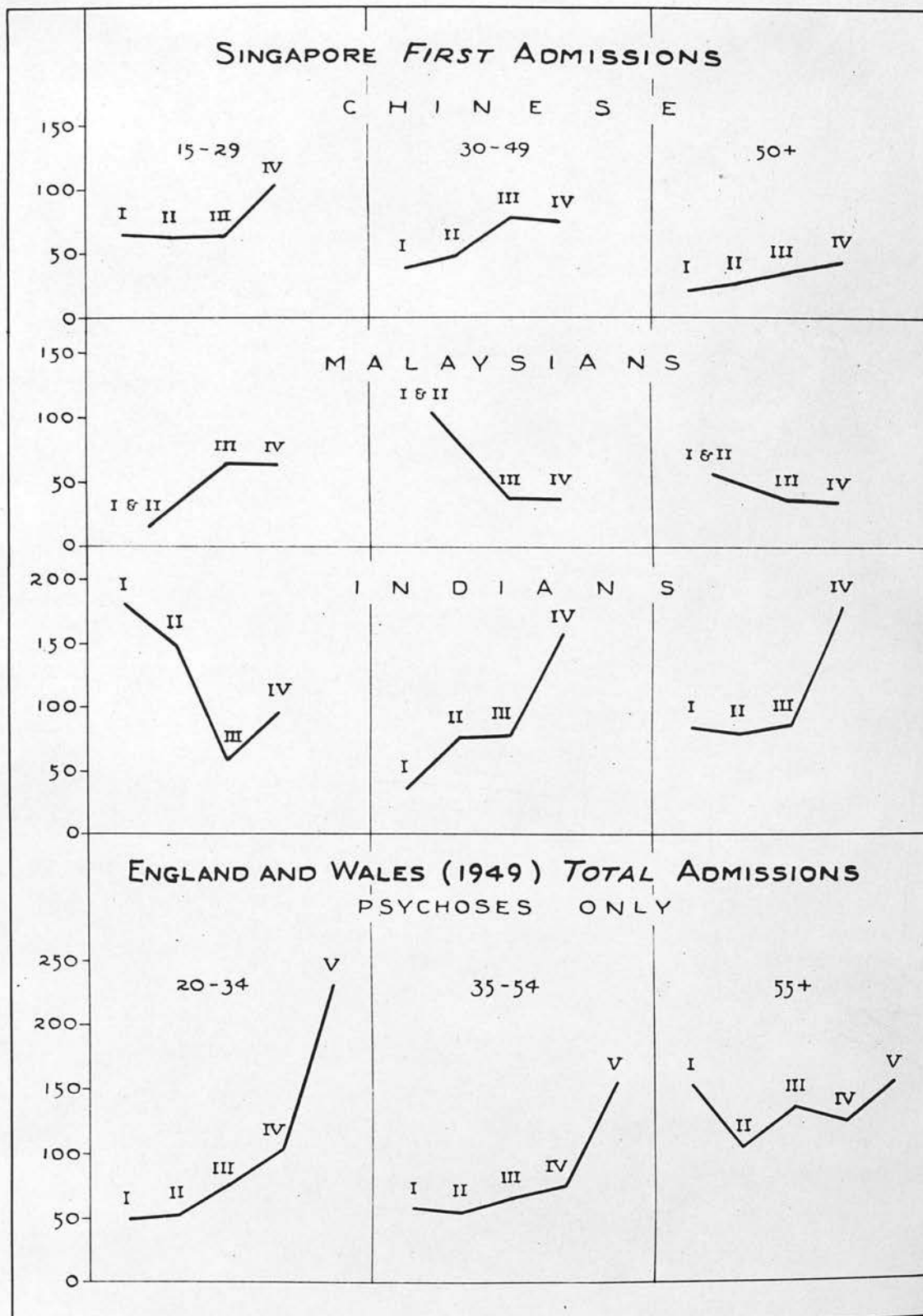


FIG. XXXV. Social Class Trends in Mental Hospitalisation at different age groups in Three Singapore Ethnic groups, males only, with comparative data for England and Wales, 1949.

has in some way or another a significant relationship to mental hospitalisation rates, although English education adds a complication which must be discussed. With the Malaysians, on the other hand, there is only a slight and doubtful variation with social class, a variation which age-specific rates do not support and which is considerably less than the within-class variation of the categories making up each stratum. For them the correlation between mental hospitalisation and prestige ranking of occupations is a positive one (though within chance range), not the negative one expected, and occupation-specific differences are, as we noted in Chapter 4 and will return to shortly, related fairly clearly to a variable which we do not normally think of as connected with social class. One category of disease does appear to increase progressively with declining class - manic-depressive - but the others vary inversely or haphazardly. In my opinion, therefore, the relative failure of the Malaysian class rates to conform to the expected pattern except in a quite crude and doubtful fashion is not a result of the small number of cases involved or the possible errors in estimation, but is a genuine finding. Finally, the Indians neither conform properly to expectation nor fully fail to conform, but rather produce a complex pattern of their own. In Fig. XXXV we find that whereas their rates increase with declining social class in the 30-49 age group and more doubtfully in the 50+*, they show the reverse trend in the under-30s. This is not, I think, a statistical artefact arising out of inadequate population data. It may reflect a migrational factor since some of the Class I patients may have been post-war immigrants sent across to join an uncle in his business, etc. (I know of such cases and immigration restrictions encouraged this sort of movement while

*According to the Social Survey data the number of Indian labourers drops sharply after the age of 50, the reason presumably being that such men tend to return to India unless they have bettered themselves and acquired a stake in the country - in which case they would not appear as Class IV - or unless they have no family or savings to fall back on. The increased rate in the Class IV over-50s thus probably applies to a small and selected group of unfortunates.

discouraging the arrival of lesser educated or skilled types) and we saw in Chapter 6 that recent immigrants, especially Indians, had an excess rate of affective psychoses; but I believe that to be only part of the story. As argued in Chapter 3, there are for Indians special difficulties facing the transition into adult status which the lower classes may be able to react to with externalised aggression but which the upper and middle classes cannot. Also, the cultural strains imposed by an English education probably affect Indians more than Chinese. Whatever the reason, however, the finding is in concordance with my own student data (the students by their studies putting themselves in the upper classes) and with the Calcutta private hospital figures cited on page 135. For the Indians, therefore, it would appear that declining social class is associated with increased mental disorder in middle age and possibly later, but with decreasing mental disorder in the under-30 group.

Two obvious local influences are reflected in these findings, the influence of culture and the influence of education in a foreign tongue. Let us consider the latter first. An English education for Singapore Chinese males would appear to carry three principal meanings. First, it provides access to certain high-prestige occupations which cannot be reached otherwise except by leaving Singapore - the higher professions, most teaching posts, all higher government posts, most civil service clerical jobs, and higher employment with the type of firm in which pensions on the Western model were provided. It is not necessary for success in trade or for a few other posts in my Class I, but the latter occupations are usually less secure. On the other hand it exposes the subject to a possible clash

they are ways of life and any hypothesis which claims universality must

of cultural expectations at an early age, and a number of occupations into which it leads - government administration, teaching in an English school, and the higher professions - bear the brunt of cultural change all the time, i.e., they must be the interpreters of change to the rest of the people. Finally, the very fact of admitting the subject into certain reserved occupations also means exposing him to a new set of reference values and a new privileged group - the Europeans - against whom to match himself. In terms of income, prestige, and job security such education is thus a clear advantage, and it may also be an advantage in teaching ways of meeting problems which the West is introducing to Asia, so that benefit to mental health might be assumed. (6) On the other hand it brings new values, new reference groups and new roles, all of which may clash with traditional ones, and it calls for the exercise of higher skills in competition with people whose upbringing has prepared them better, all of which means additional mental strain. In this special local situation, therefore, it is not surprising that the higher educated show more mental breakdown than those with the more limited Chinese education. For the moment, therefore, we can view the discrepancy in the rates of the English-educated Chinese as the result of a temporary and unstable situation which disguises rather than upsets the general class-specific trend. (13) Later we will see that this question of higher education is more complicated, but not so much as to invalidate the broader finding. is poverty in relation to social expectations rather than in re The question of the different cultures cannot be taken so superficially. They comprise a special local situation, certainly, but we have no justification for regarding them as temporary or unstable complications; they are whole ways of life and any hypothesis which claims universality must

take them into full consideration. In particular such hypotheses must, I believe, account for the relative absence of class-specific differences among the Malaysians. If we now consider the hypotheses we have discussed, their application to this culture may be instructive. First, and quite importantly, the idea that poverty might in itself be a cause for the class-specific rate differences is disproved if by this we mean that poverty leads to biological inadequacy. The poor in Singapore are on the whole closer to such inadequacy than the poor of any Western city, as the diets and living conditions recorded by the/Department of Social Medicine show, and financially the lowest class Malaysians are poorer than the equivalent Chinese⁽⁶⁾. On the other hand the diets and living conditions of the higher classes are ample and varied. If the increase in mental disorder associated with lower socio-economic status were due mainly to the biological effects of poverty, therefore, we would expect a much greater difference in class-specific rates in Singapore than in such 'welfare states' as Britain and Norway, and a somewhat greater difference among the Malaysians than among the Chinese; yet neither is so. The poorest Malaysians tend to have mental hospitalisation rates almost as low as the richest Chinese or British, just as the poor Spanish-Americans in Texas have a lower rate than the richest Anglos⁽¹³⁾. Of course, this does not mean that poverty is never a factor; it frequently may be, but then it is poverty in relation to social expectations rather than in relation to biological inadequacy which is the major factor. The natural selection hypothesis is also proved inadequate here, if by that we mean selection irrespective of social attitudes and expectations. Malaysian society is not caste-bound; it is very open and in the particular

urban occupations which we are considering the employer will usually not be a Malaysian himself, but will be a Westerner or Chinese fully ready to judge and act on inefficiency or instability. Hence there is no reason for believing that sedimentation of inefficient Malaysians to the lower classes is being interfered with, as one would have to assume to explain the findings by that hypothesis. On the other hand the concepts of social evaluation, social expectations and of individual response to these are no less suited to explain the Malaysian findings than to explain the Chinese.

The evaluation and expectation hypotheses, it will be remembered, assumed that individuals assessed themselves according to society's evaluation of their principal role or membership, and responded to the expectations which society had for these same roles or memberships. Empirically it has been found in the West that such social evaluations tend to correlate more closely with occupational rankings than with anything else, one's occupational role being usually the principal one in society's eyes. This is an empirical finding, however, not one which is essential to the hypothesis, and we might in fact predict that different cultures would accord to the occupational role different degrees of importance. In capitalist countries, for instance, one's principal means of gaining money is clearly important since without money one cannot be a capitalist and cannot demonstrate one's future salvation in present success. In communist countries, on the other hand, what one does outside one's work, volunteering on behalf of the party, may, at least for a time, carry the most prestige. Removing further from the West quite different roles can

be found to hold first place, the sexual role among the Trobrianders for instance. In Singapore, therefore, we have to ask not only whether the suggested prestige ranking of occupations is valid for each culture or lesser reference group, but whether occupational role is important in the value system of that culture. The hypothesis would predict not that a high negative correlation should exist with occupational prestige irrespective of culture, but rather that different degrees of correlation would appear in accordance with the importance which occupation is culturally viewed. This is precisely the point with the Malaysians. As I have written in Chapter 4, occupational and material success are relatively slightly valued by the Singapore Malay. I noted there that they found their religious leaders among the Arabs, their political leaders among the Indonesians, and that efforts to persuade them to engage more in commerce had largely failed. At the University the same cultural traits appear; Malaysian students are disproportionately few, seek the easier courses in preference to the more difficult but eventually more rewarding (i.e., liberal arts instead of medicine), and are relatively undisturbed by failure. In part, prestige among them is related to inherited rank, though Singapore itself has few aristocrats; in part it goes with religious activity; but mainly my feeling is that social prestige systems of any sort are of slight importance for them. (We are, of course, speaking of the Singapore Malaysians, not those from neighbouring lands where prestige has been found to be very important.) Since social expectations, as related to occupational role or social though perhaps less of a gradient than in the United States.

standing, are also exceedingly mild, it follows that neither the perceived social evaluation nor the perceived social expectation is going to weigh heavily on the lower class Singapore Malaysian, and if these were the main factors inducing more frequent mental breakdown in the one stratum than in the other then certainly we would expect only very slight differences in rates to appear.

With the Chinese social evaluation and associated expectation is a very different matter, much more close to the Western attitude, for the duty to ensure the persistence and prosperity of one's family quite naturally make the gaining of economic power and security important and involve quite high social pressures. For them the millionaire ^{and} holder of a high government post are not only demonstrating individual competitive ability (which may not be so highly valued since by itself it may be disruptive); they are usually demonstrating family piety and loyalty and gaining prestige which will redound on both their parents and their children. Certainly, worldly success alone never carried as much prestige in traditional Chinese culture as it does in the United States, and the wealthy man or diligent worker was less of a culture hero than the man (or woman) who sacrificed himself for his parents or offspring. But the combination of the two was valued, and there were strong social expectations that the poor man would strive to better himself and his family since if he did not he would be adjudged not only unenterprising but unfilial. From the evaluation and social expectation hypotheses, therefore, we would expect quite a definite gradient in class-specific rates, though perhaps less of a gradient than in the United States.

the social scale, however, the young man more and more feels his weakness in

With the Indians, the question of whether our findings are predictable from the evaluation group of hypotheses cannot properly be answered, since knowledge of the Singapore Indian culture is inadequate. In India, itself, what one had was not classes but castes, for whom the concept of predestination may have neutralised the implied social evaluation, just as the dependency of the twice-borne castes on lower ones for many social functions may have neutralised the presumably traumatic concept of defilement. Considering, however, the dominance-submission theme in Indian life, and the probable resentment which the lower castes must have felt against the upper on finding that status among other peoples was not predestined, I would have expected a strong and general drive to attain more dominant social positions, with the lowest strata definitely suffering from the dominance of their superiors irrespective of whether evaluation is a factor or not. In consequence, this limited knowledge of the culture would seem to predict a strong class differential in mental disturbance rates, a differential such as we find in the 30-49 age group (Fig.XXXV) but do not find at all in the earlier age. However, if we consider how a sense of dominance (and of the self-confidence which goes with it) may be obtained at different social levels, and what other sorts of breakdown may occur, then I think the difficulty may be resolved. It is a peculiarity of semi-skilled and unskilled manual occupations that earnings and status frequently do not increase with age, but may decrease. In Singapore, the lower-class Indians are predominantly unskilled labourers, working on the docks, rubber factories, etc., and in these occupations the young man in the flush of his strength can frequently earn more than the older man and can use that strength in violence against rivals. As one climbs the social scale, however, the young man more and more feels his weakness in

the face of his elders, office superiors and immediate employers. If he is a civil servant he will not, for a time, even have members of the public to bully, being kept in the back office, and if he is a young teacher the insecurity of his employment at first prevents him from being too dominant with his pupils. On the other hand, anti-social breakdowns in these upper levels are culturally forbidden in a way that is by no means the case with the lower Indian classes. At this younger age, therefore, I suggest that in terms of an important value the lower classes can find easier means of expression than the upper, whereas at an older age the position becomes strongly reversed. That, I suggest, is one explanation for our findings. It does not help with the hypotheses we are exploring and it may seem to the reader to place too much emphasis on the dominance/submission theme, but on the latter point I can only say that its importance has been pressed home to me in personal observations of Singapore life and in my studies of Indian students.

In the West (or at least in Britain and Norway) one finds, as we saw earlier, that the greatest class differentials in mental hospitalisation occur in early adult life and that the patterns were similar in both sexes. In Singapore, neither of these findings is repeated, although the fading out of the class-specific rate differentials in later life probably does occur. (Figs. XXXVI and XXXV) I do not think we need put much stress on the age question, but the difference in sex curves which Fig. XXXVI shows demands notice. The matter is complicated. In the first place, it must be realised that while the average social level of educated Chinese women is higher than that of uneducated, there are numerous illiterate women in Classes I and II. Illiteracy is not a bar to making a better-class marriage since it is an Asian tradition that women do not need formal schooling and are, perhaps, best off without it.

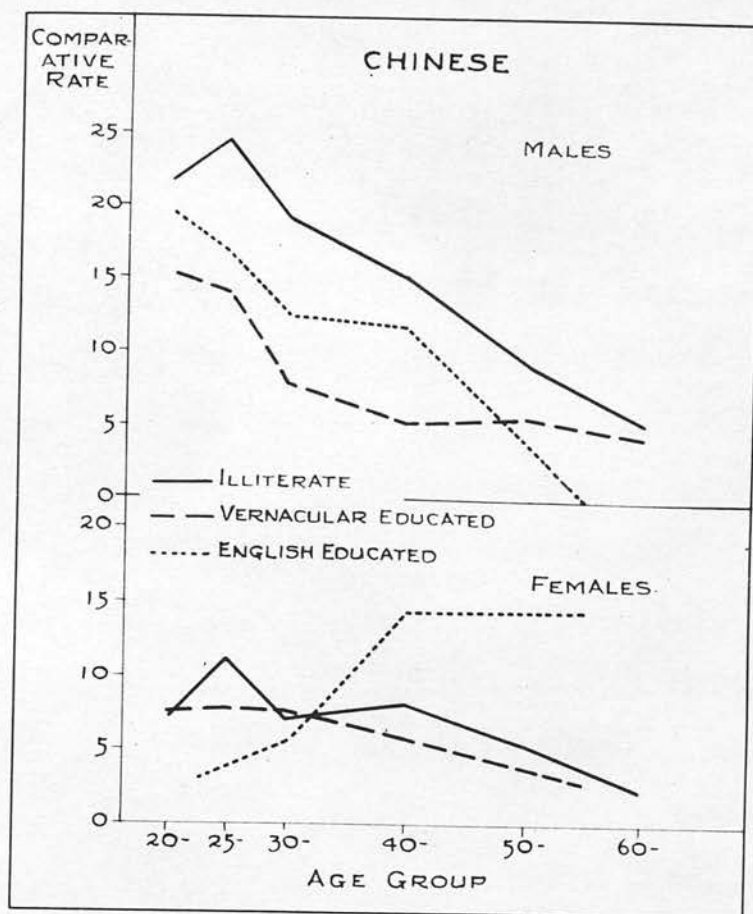


FIG. XXXVI. Comparative Incidence of mental hospitalisation by Educational Level, Age, and Sex; for Singapore Chinese only. (See text for methods of estimation.)

For this reason, it must be understood that although the average social class of the literate female group will be higher than that of the illiterate, there is a considerable overlap. This is much less true of the males. In the second place, social expectations for Chinese married women are considerably different from those for married men. The ideal wife is one who keeps to the house, serves her husband, and neither reproaches him nor presses him concerning his activities, not one who helps him to succeed by constant urging or by working herself, or who brings prestige to the family by wearing the smartest clothes or strolling at parties. In consequence, I think it probable that the wife is less sensitive to the evaluation which society places on her husband's position than to the value which her husband's family places on herself as a dutiful wife. For these reasons we would not expect, from any of our social hypotheses, to find the female Chinese class-specific rates paralleling the male, especially when class must be guessed from educational data. However, this very fact does permit us to note something about the effect of education as such. We may not be sure that there is much difference between the illiterate and the vernacular-educated women as regards social status, but what is clearly different is the fact that the one group has received conventional schooling while the other has not. Does that schooling appear to have either offered protection against certain types of breakdown, or to have made the subjects more vulnerable, perhaps by making them more aware of problems and contradictions in their life?

The answer would appear to be that education makes little difference under these circumstances. The curves of the female illiterate and the female vernacular-educated groups are very close and when one examines the type of case occurring in the two groups there is only a slight difference. The percentage of schizophrenia and depression is higher in the educated than in the

In Table 48, and there we see that the highest prevalence of mental disorder

illiterate and the percentage of acute confusional states and of involutional psychosis (but not of the chronic organic type disorders) is lower, but the difference is of doubtful significance. In the Chinese males, the same proves true if one first controls for social class as defined by occupation there are differences between the types of disorder shown by the illiterate and the vernacular educated in the different classes, but these differences are not all in the same direction. In Classes III and IV, for instance, the illiterate group have proportionately more acute confusional psychosis than the educated, but in Classes I and II it is the reverse. In Classes I, II, and III, the vernacular-educated have a higher percentage of schizophrenia than the illiterate, but in Class IV the position is reversed. The conclusion would seem to be, therefore, that simple schooling as such is neither an advantage nor a disadvantage as far as risk of major mental breakdown is concerned, at least in this culture.

With higher education, the position may be different, although here we have to distinguish between the possession of the education and its application. In Singapore, the matter is complicated as has already been mentioned, by the fact that such higher education usually meant learning in a new language

	Social Class		Occupation		Education	
and in the context of foreign cultural ideas.	Upper	12.7	Professions	32.0	College and	
			Merchants	10.5	High School	25.3
In Formosa, however,	Middle	7.6	Salaried Workers	6.1	Elementary school, etc.	10.6
	Lower	18.9	Labourers	10.7	Illiterate	16.6
Lin found higher education to be definitely associated with a			Unemployed	19.7		

TABLE 48. Comparative Rates of Mental Disorder found on Community Psychiatric Survey in Formosa, by Occupation, Education and Social Class. (From Lin 15)

higher prevalence of mental disorder, although there the medium of that education, and to some extent also the tradition, was Chinese. His data are summarised in Table 48, and there we see that the highest prevalence of mental disorder

occurred in the higher educated and especially in those who had to use their higher education, the professionals. It must be understood that these figures include neuroses and that the different columns do not support each other as much as they appear to, since they all refer to the same quite limited group of cases. But on the other hand, one must also remember that this was a prevalence survey done by people who would presumably have greater sympathy for upper-class values than for lower and hence (at least according to (11) Hollingshead and Redlich's theory) be more ready to label certain lower-class patterns of behaviour as abnormal. Moreover, as a prevalence community survey the problem of 'remainders' which cannot be classified did not exist, since determination of class, education, etc., was a specific task; hence it is potentially more accurate than the Singapore data with which we must work here. These results suggest that the English-educated curve in Fig. XXXVI may depend on something more than merely the foreign language problem.

There are three potential factors which I can see as possibly hidden behind these data. First, there is the possibility that formal higher education, irrespective of culture, occupation, or anything else, may, by encouraging its subjects' minds to reach further, also render them liable to over-reach and break down. Some support for such a hypothesis is given by Parnell's (25) findings of excessive suicide and mental disorder in Oxford undergraduates ; but Oxford is not a typical centre of higher learning and reports from other (26) college health services are uncertain on this matter . Moreover, it can be assumed that a high percentage of the upper class in Britain and the United States have been to college (though that does not mean, of course, that they have absorbed any higher learning) and these groups have low over-all rates of mental disorder, or at least of psychosis. As an alternative, one

might suggest, therefore, that it is not higher learning in general, but higher learning in situations of cultural change such as Singapore and Formosa undoubtedly represent. To go to high school or college for a Chinese today means learning much that cannot easily be located within the traditional Chinese value system, and it may mean feeling that whole system, in which one has been brought up, to be challenged. It is a wide impression in Western colleges that the incidence of mental breakdown in students from African and Asian cultures is high, but whether it is higher than for less educated immigrants from such backgrounds one does not know. It is interesting to note that in Chicago the incidence of mental disorder in Negro teachers and clergy (who are, in a sense, a marginal group between two cultures) was the third highest of the categories used, although among the Chicago Whites the same category was the (3) thirteenth highest ; and one might recall the high incidence of major mental disorder in the Javanese physicians, cited in an earlier chapter. However, against this I must record that I did not find the incidence of mental disturbance among Chinese students at the University of Malaya to exceed the average rate found by colleagues working with Western students in Western universities, after having brought my standards as closely into line with theirs as I could.

The third hypothesis is that the higher incidence of mental disorder in the better educated in Formosa and to a lesser extent in Singapore stems not from the education as such but from the types of occupation into which such people tend to go. I do not know how it is in Formosa, but in Singapore higher education was rarely sought by boys destined for a business career. Moreover, once such a higher education (e. g. in an English language high school) was embarked upon, the attraction of a business career faded rapidly and the

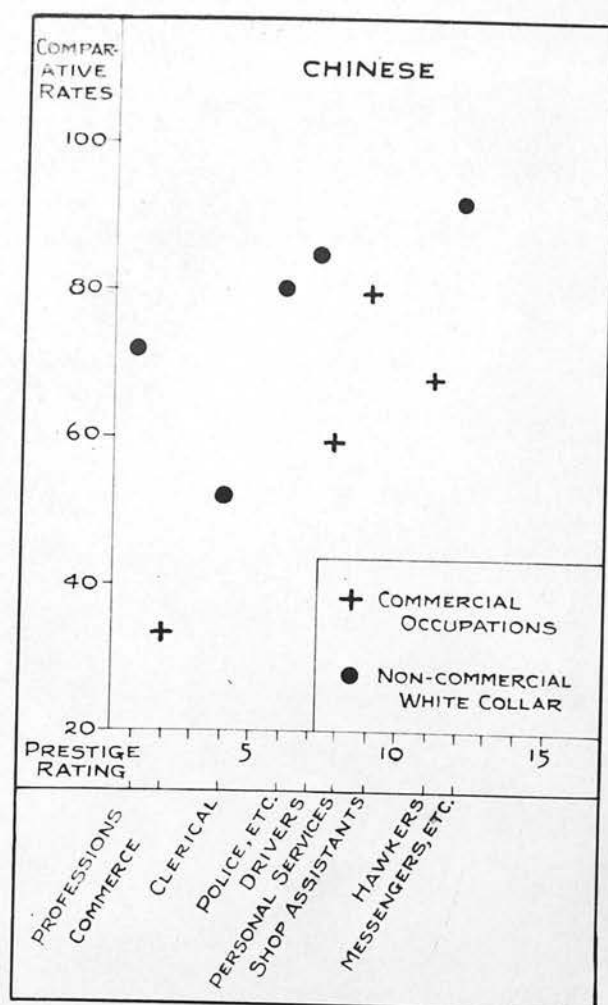


FIG. XXXVII. Levels of Mental Hospitalisation in Commercial and Non-commercial White-Collar occupational categories, as related to estimated Prestige Rank; Singapore Chinese males only.

majority thought in terms of a professional or administrative occupation*. And this type of occupation, in most countries, appears to show higher rates of mental disorder than business occupations of most nearly corresponding rank. In Texas, for instance, the "professional and semi-professional" category had the highest incidence rates of psychosis (both hospital and privately treated cases) after the "unemployed" category (12). In Norway, "professional service including higher officials" had the third highest rate of the thirteen categories used (18). In Chicago, the provision of prestige ranking through eighteen occupational groups permits us to follow the matter further down the scale and we find that mean prestige rank of the top four categories of white collar, non-business occupations is 4.2 and their mean rate 74.5, while the mean rank of the three main trading categories is 7 and their mean rate 59.2.** (3) A similar trend is to be found in the Singapore Chinese, among whom the non-mercantile or non-business white-collar occupations show rates regularly above those of the mercantile or business ones nearest to them (in my estimation) in prestige (Fig. XXXVII). (In the Singapore Europeans, the reverse relationship appears to exist, but here one has the complication that the administrative group would be almost wholly British while the business and artisan group would have a strong admixture of other nationalities: See Chapter 5.)

* See data on High School pupils' vocational preferences in my paper: Cultural Factors in the Mental Health of Malayan Students (27).

** Clark's top prestige ranking includes both professionals and large owners, and hence had to be excluded, as was the category 'subexecutive', which could be either administrative or business in orientation.

leagues view these doctors who gain the highest incomes from their practices.

In consequence, it does not seem too much to suggest that such clash may be

Why this difference should occur, apparently quite independently of any social class factor, is not too easy to conjecture. The professions and administration are usually more secure and peaceful than trade or business, the existence of fixed hurdles to be crossed before admission should, one would think, weed out the less able candidates, and hence one might expect them to have the best mental health of any comparable section of society. Yet it is not so. In Singapore, one can see that there might be difficulties in these occupations through having to deal more frequently with European superiors and with Western concepts, but this is not the case with other countries. The most plausible suggestion that I can find concerns the value systems of our modern acquisitive society. The business man finds a strong concordance between the goals prescribed by his occupation and the goal of material success prescribed by the general culture. For the administrator, office worker, and for many professional men, on the other hand, there is a considerable clash of goals. The bureaucrat is expected to refrain from seeking any personal profit from his position, other than the allotted salary; the professional is frequently expected to refrain from taking the profit which he could demand, that he may better be a servant of society; the academician is expected to put the attainment of knowledge before that of material wealth. Yet all are surrounded by a society, all are grown up in a culture, where material wealth is taken as the main indicator of personal value. The clash of values is seen frequently enough in the complaint of the professor that although society accords him so high a prestige it does not pay him correspondingly, or in the mixed feelings of envy and contempt with which colleagues view those doctors who gain the highest incomes from their practices. In consequence, it does not seem too much to suggest that such clash may be

at least, and security combined with limited work expectations is also attractive as an additional factor predisposing to mental disorder, whereas the business man is spared. At other times or in other cultures, of course, the same relationship need not stand. In mediaeval Europe, for instance, it was the merchant whose occupation tempted him to hold values different from those of the general populace, and we can imagine that under the thunderings of the Councils of Lyons and Vienne against usury and unfair gain, it was this section of the population whose mental health was the poorer.

Our attention being now shifted from social class factors to those of specific occupations or groups of occupations, what other categories would we expect to show unusually high or low rates? The answer to this appears to depend on the culture with which one is dealing rather than on any independent characteristics of the work required. Take the occupation of policeman, for instance. It is one which offers considerable power and which demands less physical or mental effort than some other occupations of similar social status, but which involves potential danger, demands strict loyalty and obedience to superiors, and occasional quick action. Among the Chinese, bravery is not an important virtue, and timidity is quite an accepted trait* and personal health and safety is very important. Also, loyalty to society is regarded as of less importance than loyalty to one's family. In consequence, one would expect the job of policeman under a foreign administration to be relatively unpopular among the Chinese and the frequency of mental breakdown among those who did enter it to be higher than average. This is what we find. On the other hand, loyalty and bravery are important to the Malaysians, or some Malaysian groups

* See for instance the classic All Men are Brothers, or, for the present-day Singapore Chinese, the behaviour of the hero in Chin Kee Onn's novel Maraee.

at least, and security combined with limited work expectations is also attractive to them, so that one would expect this occupation to be popular among them and to show a mental hospitalisation rate below normal; which is also what we find. Or let us take the job of domestic servant. Family life being so important and supportive for the Chinese and tradition limiting the degree to which an underling can be bullied, one finds that Chinese servants tend to identify with the family for which they work, once an initial exploratory period is over, feeling a strong sense of duty towards them but feeling also free to seek their help in personal matters*. It is not surprising, therefore, that this occupation carries the lowest mental hospitalisation rate of all those we are considering. With the Malays, also, the high value put on loyalty would lead one to expect them to be satisfied in such work and not to be under strain. On the other hand, Indian servants working for Indian masters experience the relationship much more as a dominance-submission one, resenting the continuous over-seeing they are subjected to and often experiencing considerable bullying (again I write from personal experience; some Indians of my acquaintance had great difficulty in obtaining or keeping servants, for this reason). So to me it is

* From the classic literature, one might illustrate by the servant-master relationships described in The Dream of the Red Chamber. For the present-day I can cite a personal experience. A servant hired to look after our youngest child was offered other work by us when the baby grew older. She did not like this type of work but felt it her duty out of loyalty to accept it, finally finding a way out by developing a psychosomatic disorder which gave the excuse for resigning. The traditional treatment of the disorder involved considerable discomfort or self-punishment. Later, when she had taken another job, she developed an acute confusional psychosis during which it was considered natural by her friends that our help should be sought, and she confused my wife with her own dead mother. After recovery, we were continued to be treated by her and her friends as in a way her own family, and my children were treated by them on the New Year days, when only family should be visited, as if they were nephews and nieces. That she broke down in this way was apparently exceptional; that she should have a family feeling towards us was unusual only in as far as we were Europeans and hence not expected to have as much common sympathy with her tradition.

not surprising that the incidence of mental disorder in Indian domestic servants is recorded as high. It is wise here to remember the limitations of the present data and hence limitations of the occupation-specific rates which I am now citing, but, nevertheless, if we take not single categories but trends through many categories then I think it can be seen that rate differences between the cultures are related to the value systems of these cultures. With the Malaysians, for instance, I have already suggested that the main difference between those occupations with high rates and those with low lies in the degree of mental or physical exertion demanded (page 162, Table 29). With the Chinese, the same cannot in any way be said. Allowing for social class status, one finds, I think, that differences between Chinese occupation-specific rates can be related most easily to the question of whether the job offers opportunity for the individual to establish himself and his family independently of the whims of an employer or not. This is also related to the question of business versus administrative and professional occupations, but I take as particularly significant the high Chinese rate for the messengers and watchmen category, since these are occupations offering much leisure but ones in which the subject cannot make use of that leisure economically and in which, in consequence, there may be an accusation of not seeking to better oneself. On the other hand, hawking, a much more arduous and insecure occupation, does permit the individual to demonstrate to himself and to others that he is doing the most he can. Finally, for the Indian occupation-specific rates, the question of dominance is still, I believe, the important one, although here it is necessary to know something about the occupations and the patients concerned. It would appear, for instance, that on this hypothesis the professional category should have quite a low incidence of breakdown, whereas it is high. However, all the

is true again here, as Table 4) shows.

Social Class for Three Ethnic Groups, males only, Singapore, 1950-54; adjusted for age.

Indian patients in this category prove to be young teachers, a group faced with the problem of handling relations with inferiors in such a way that resentment is not aroused and that their superior (often British or British orientated) approves. At the opposite extreme lies the Messengers and Watchmen category, where one might have expected a high incidence of breakdown on the dominance hypothesis but which nevertheless shows a low one. Here, however, one must know that there are very few Indian office boys, etc., and that the majority of Indians in this category are Sikh guards and watchmen, men chosen and admired for their fearsome appearance who work largely alone (the watchman job is almost a Sikh monopoly in Singapore and they support each other against employers, etc. even though they may fight among themselves). Indian policemen are also largely Sikhs, and usually in the officer or N. C. O. ranks, so that a high Indian rate in that category is not to be expected either. For other categories one can, as I say, relate the level of mental hospitalisation (though especially of schizophrenia - see page 147 and table 28) to the amount of dominance likely to be suffered or enjoyed.

In almost all the discussion in this chapter so far we have been considering mental hospitalisation as a whole, not specific diagnoses. In the West, however, it is the common finding that all diagnostic categories are not equally affected by class and occupation; usually it is schizophrenia which is the most varying, with the organic disorders next and the affective disorders least, thus, as we noted, making the schizo-affective ratio the most constant variant. In previous chapters, however, we have found that the schizo-affective ratio in Singapore did not vary in conformity with expectations, and the same is true again here, as Table 49 shows.

CLASS	Chinese	Indian	Malaysian
I	0.86	0.13	1.33
II	2.08	0.98	
III	1.31	0.29	1.06
IV	1.37	0.31	0.65

TABLE 49. Schizo-affective ratios by Social Class for Three Ethnic Groups, males only, Singapore, 1950-54; adjusted for age.

Schizophrenia appears to increase considerably between Class I and II, both in the Chinese and in the Indian sections of Fig. XXXIII, but thereafter the rate falls in both cases. If we ignore Class II, then increase in both the absolute schizophrenia rate and in the schizo/affective ratio occurs with declining class in both cases, but these increases are relatively slight by Western standards and there is still no increase whatever in the Malaysians.

There are two things to be said here, I think. First, it seems probable from an inspection of the data that the high rates of schizophrenia in Class II Chinese and Indians are connected with English-language education. This is not unexpected, for, as I have discussed elsewhere⁽²⁷⁾, most families who have a child in an English-language high school appear to lack - since they have no prior experience on which to base it - any means for judging the limiting factors in the pursuance of a career. Hence, many Singapore Asians whose family have managed to get them through an English-language high school have strong expectations that they will proceed to university and enter the professional classes, these expectations persisting both in the subject and in his immediate society long after the normal age for leaving school. It follows, therefore, that while the English-educated in Class I are able to fulfil the expectations held for them and the non-English-educated in Class II largely do likewise (such expectations being more modest), the English-educated in Class II have experienced the frustration of such expectations and are not easily permitted to forget them. If we take only the non-English-educated in Class II, then the schizophrenia rate and schizo-affective ratio probably fall close to the expected levels*. The second point to note, however, is that

* Calculation of incidence is not possible, for there exists no data on occupation as related to education in the population and the number of patients of Class II with education recorded is small.

even though this is true, most other diagnostic categories increase almost as much as schizophrenia does, the only real exception to the trend being depressive psychosis. In fact, if one measures social class not in terms of occupation but in terms of education, then, as Fig. XXXIV shows, the diagnostic category which increases most through the three classes is the manic and cyclical psychosis group. This category, it is of interest to note, is also the only one to show an apparent increase with declining class in the Malaysians. Other categories which increase significantly in the Chinese and Indians are the acute confusional, the chronic organic type, involutional melancholia, and the borderline conditions like schizoid or anti-social personality (but not the true neuroses, which appear most commonly from Class I).

One may ask how these diagnostic findings, and the way in which they contrast with Western results, fit the various hypotheses discussed earlier in this chapter. It seems to me that if frustrated or excessive social expectations of upward mobility were the main factor involved, then it should be schizophrenia which shows the most co-variation with social class, while other disorders should show little or no variation at all. If it were excessive effort at attempting to better oneself which were the main factor, on the other hand,

If the above arguments are valid, then it would appear that we can say a little more about which factors are most probably operating in the West and in Singapore. In Singapore, it would seem to be social evaluation which is the most likely to be operating. In the West, or at least in Britain and

then I think it is the arteriosclerotic and senile disorders which would be predicted to show the most co-variance, while schizophrenia, since it affects mainly earlier life, should show little change at all. Finally, if it were identification with the perceived social evaluation which was most important, then it seems to me that what one should expect is an increased susceptibility to most forms of breakdown, but especially to those which are florid, diffuse and unclear in their initial stages, in other words acute confusional states, unspecified schizophrenia, manic states, and perhaps also involutional melancholia. My reasoning in the last case is that if the social evaluation is identified with, then as that evaluation declines self-belief or self-confidence should also decline. If self-belief declines, then the most probable effects on mental health would seem to be an increase in the vulnerability of the central Self (see page 24) to peripheral mental disturbances (or external influences), an increasing inability of that Self to limit a disturbance to a particular function or group of functions, and a decreasing ability to withstand the loss of external support. I admit that this argument is based on a vague and unproven theory, but I have yet to find any better which could serve the present purpose. On the last point I would also expect that lower-class breakdowns should result from lesser causes and hence more rapidly recover with proper treatment, but this assumes that external perpetuating factors are absent and such an assumption is unjustifiable with respect to most psychiatric hospital treatment.

If the above arguments are valid, then it would appear that we can say a little more about which factors are most probably operating in the West and in Singapore. In Singapore, it would seem to be social evaluation which is the most likely to be operating. In the West, or at least in Britain and

in some parts of the United States, one gets an increase in most types of disorder, thus supporting the same hypothesis, but on top of these one gets an especial increase in schizophrenia. That would seem to suggest that in these countries, to a greater extent than in Singapore, social expectations are more pressing on the individual or the means of complying with these expectations are less attainable. The latter point may be true - it is difficult to assess - but what is almost certainly true, as has been said in previous chapters, is that social expectations do press less on the individual in Singapore than is customary in other lands; certain types of social expectation, at least.

The final point with which we will deal in this chapter is the question of prognosis. Hollingshead and Redlich have reminded us recently (11) of the common though too often ignored observation that the lower classes not only get into mental hospital more often, but they stay there much longer. Whether this fact is due to a greater seriousness in type of disorder, or to the treatment they receive (or fail to receive), or to social difficulties in arranging replacement within the community these authors have not demonstrated, although they offer us most plausible opinions on the matter. They have shown that even in clinics and hospitals which are supposed to serve especially the poor, the lower classes get less satisfactorily treated, according to current psychiatric theory, than the middle; but we also know that the poorer facilities for receiving a sick person in a lower class family mean that patients are retained in hospital when they might have been released, the upper classes both in the West and in Singapore finding it shameful to leave a relative in a public hospital if discharge to home or to convalescence is possible. We therefore do not know whether difference in type

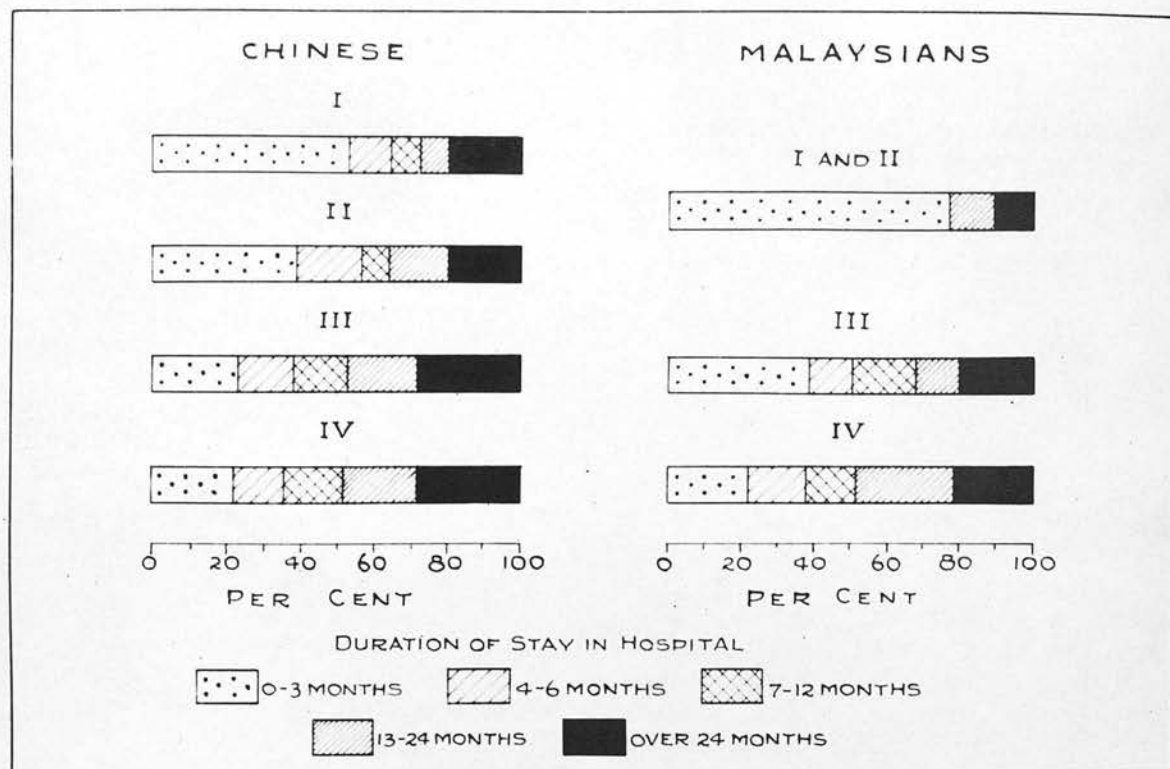


FIG. XXVIII. Duration of Stay in Mental Hospital, by Social Class, and Ethnic Group; Singapore Chinese and Malaysian males only; 1950-53.

of psychiatric treatment is a real factor, whether the cases are different initially, or whether if the community could accept them such lower class patients would leave hospital just as fast as middle-class ones, provided only that the hospital did not hinder such improvement; for, as argued in the previous paragraph, it is possible that lower class disorders might initially be of a lighter kind than higher class, not more serious. My Singapore data cannot attempt to answer this problem but it is nevertheless of some interest to enquire whether the customary poorer prognosis in the lower classes is true there also, and whether it is as true among the Malaysians, who showed virtually no variation of hospitalisation incidence with social class, as with the Chinese. Figure XXXVIII gives the answer. Social class is clearly related to the speed with which male patients leave hospital, especially as regards discharge within the first three months, and this is as true of the Malaysians as of the Chinese. Female patients, of course, could not be categorised by occupational class, but when the limited sample for whom education was recorded were analysed a rather different finding came out, since the illiterate females showed as high a percentage discharged within three months* as did the literate. Also, the vernacular educated male group had virtually the same proportion of early discharges as did the English-educated. These two points suggest, though no more than suggest, that it is not the question of lack of communication or sympathy between upper-class doctor and lower-class patient which holds the lower class in hospital longer in Singapore, otherwise the illiterate females should have had a poorer discharge rate than the literate and the English-educated males a better rate than the vernacular educated, the doctors being mainly European.

* The majority of patients on whom educational level was recorded were 1954 admissions. Consequently, their subsequent history could only be followed up for a limited period and the 3 months' cut-off point seemed the most useful.

Also, if the difference in outcome were due to the lower classes having a poorer education, informal as well as formal, and/less able to help themselves get better, as has sometimes been suggested, then similarly one would have expected the female early discharge rates to differ, and the Malaysians, who are the poorer educated, to show the poorer outcome. It is my impression, therefore, that in Singapore this question of outcome is related more to the general, social and not medical, means available to the patient to help himself recover. The question of whether there are friends or family, a member of the hospital staff to take interest in him, visit him, and make arrangements for his reception outside; whether the work which the hospital gives him to do - and is happy to have him doing, since state hospitals are very dependent on the labour of their patients - is more attractive than that awaiting him; whether people outside the hospital are as kind to him as even the overworked staff within it; all these matters may, in Singapore and similar places, be of as much importance as the initial condition on admission or the type of treatment received, in obtaining his discharge. The finding which does not fit this impression, or any hypothesis one can easily think of, is the fact that among the Chinese males the pattern of outcome in Class III is virtually identical with that in Class IV, whereas in the Malaysians the outcome for the higher class is better than for the lower.

Conclusions

There are a number of fairly firm conclusions which can be drawn for this chapter. In the first place, the phenomenon of increasing mental hospitalisation with declining social class proves to have a wider application than merely in Western society; it is true of the Singapore Chinese

and at least partly true for the Singapore Indians. As explanations for this phenomenon hypotheses connected with natural selection and social mobility, with biological poverty, with education, with essential cultural differences between classes, with accessibility to psychiatric care and with attitudes towards mental hospitalisation have all proved relatively unsatisfactory in accounting for variety of findings we now possess. On the other hand, hypotheses based on social class structure as an environmental fact in itself appear moderately successful in accounting for most of our findings, provided we recognise that the degree to which socially evaluated status is important to the individual can vary from culture to culture. Among the Singapore Malaysians, social prestige, whether as related to occupation and material attainments or more vaguely as prestige generally, appears to have quite low importance in their value system, and this would seem to be linked to the fact that class differences in mental hospitalisation incidence are virtually undetectable. However, it would appear fairly safe to say that most cultures able to compete in modern life with their neighbours would have to put material acquisition and competitive social success quite high in their scheme of values, so that the prediction that mental disorder will increase with declining social class is likely to have a wide validity independent of culture. (The Singapore Malaysians are not, at the present moment, showing themselves able to compete; unless their value system changes they seem in danger at the least of being pushed to the bottom of the social structure, at most of disappearing as a distinguishable group.) I have suggested three ways in which this social class influence might be operating, but our evidence does not strongly favour one way rather than the other. Probably all operate, but to a varying degree depending on the local situation, so that in one locality we may

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find the greatest class difference lying with the arteriosclerotic and senile psychoses, in another with schizophrenia, and in a third affecting most types of disorder equally, these differences depending on what facilities or frust^{high}trations exist for social betterment and how/a value social status possesses.

In addition to the influence of social class as such, we have also noted that occupation and education can have independently, an influence on mental disorder rates. However, such influence does not prove to be significantly constant across different cultures or societies; on the contrary, what appears to be important is not the specific demands of an occupation or the process of formal education as such, but the attitudes and expectations which society has in relation to them or to the qualities which they demand. Where the social expectations associated with a particular occupation or type of education conflict either with wider expectations or with the objective limitations of the situation, then that appears to be more important, especially as regards schizophrenia, than the specific burdens which that occupation or education impose.

attempt to disentangle the religious element from the rest of culture.

(13)

Slater's paper on the religious affiliations of neurotic British soldiers is good as far as it goes, but only deals with the neuroses and does not examine for co-variant factors such as the influence of social class, the same complaint as is applicable to the religious data in the New Haven study (9) and to Jaco's social survey of high- and low-incidence areas (7).

In the New Haven work we learn that differences in incidence among the three main religious groups there exist, but we also learn that marked differences occur in the social class distribution of these religious groups, and no attempt is made to control for this since it was class and not religion that

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R E L I G I O N

Of all social or cultural factors which might be expected to have a major influence on mental disorder religion is surely the most obvious and the most neglected. Most religions have as a partial aim the provision of peace of mind or the reconciliation of conflicting tendencies in personal life, but the ways in which they approach these goals vary considerably and one would in consequence expect their success, as measured by the incidence of manifest mental disorder among their adherents, to vary also. Yet I know of no religious leader who has called for evidence of this kind as a check on his church's efficiency in this direction, and social and medical scientists have preferred to leave the subject to one side. Eaton and Weil's Hutterite study (5) is the only one that can be said to have tackled the problems of measuring the incidence of mental disorder in one religious group as against others, but in this case it was not religion alone but a whole mode of living which was involved and the authors do not attempt to disentangle the religious element from the rest of culture.

(13) Slater's paper on the religious affiliations of neurotic British soldiers is good as far as it goes, but only deals with the neuroses and does not examine for co-variant factors such as the influence of social class, the same complaint as is applicable to the religious data in the New Haven study (9) and to Jaco's social survey of high- and low-incidence areas (7). In the New Haven work we learn that differences in incidence among the three main religious groups there exist, but we also learn that marked differences occur in the social class distribution of these religious groups, and no attempt is made to control for this since it was class and not religion that character. Here factors like majority and minority status would be involved,

was being studied. Probably the same could be said of Jaco's sample, although here the association is not made explicit. And these are virtually all the studies worth quoting. Numerous papers have been written about the forms of religious delusion in mental patients and about individual cases appearing among small evangelical sects or in the leaders of new movements, but these are different questions. They are concerned with the forms of religious belief occurring in mentally disturbed people whereas what should be investigated is the protective power of established religion among its ordinary followers. Durkheim (4) showed, or attempted to show, that the more authoritarian a religion was the more protection it afforded its adherents against suicide, and more recent work has demonstrated that adjustment to old age and to retirement is better in people with strong religious beliefs than in others (12). At the opposite extreme it is a common psychiatric belief that depressive states are more common among people affiliated to the more guilt-arousing sects or in primitive peoples converted to Christianity (11). These observations, however, barely penetrate the surface of our subject. From Singapore I have only a little more data to add, for the main religious cleavages are also cultural ones and cannot be separated, but the opportunity can be used at least to start exploring the questions involved.

If religion does have any predisposing or protective effect on mental disorder there are three main ways in which one might expect it to operate. The simplest would be by acting as the cause or focus for community or group formation, the influence then depending on the sort of community structure involved and not on that community's intrinsic religious character. Here factors like majority and minority status would be involved,

or the mutual supportiveness which we will discuss in connection with the Kongsis (which are often religiously focused) in the next chapter. But the results would not be essentially different from those found through the study of similar but non-religious groups. At the opposite extreme is the possibility that religion might act purely by virtue of its intrinsic qualities - creed, dogma, ethics, theology, etc. In this case one would expect any variations that occurred to be independent of group structure or ~~of~~ culture or of anything but the religion itself. Thirdly, it seems possible that religion might operate not purely by virtue of its intrinsic traits nor simply through being a focus for social activity, but by an interaction between creed and family life. Ernest Jones has stated the Freudian view as being that "religious life represents a will dramatisation on the cosmic plane of the emotions, fears and longings which arose in the child's relations to his parents" (8). However, this is unnecessarily one-sided for even if one views religious beliefs as a projection of family life the fact remains that once they are projected they live a life of their own, only gradually modifying as the family is modified. We know that the great world-wide religions tend to vary in their form from country to country, but the main dogmas of these religions are still created in the Vatican or Al-Azhar and such dogma is just as likely to modify family mores in the different lands as to be modified by them. Hence a Muslim Indian's upbringing is probably significantly different from that of his Christian Indian neighbour's, and even though their parents may have been most casual in their religious observances and the sons both convert to Hinduism later it is likely that some trace of their childhood religious milieu will remain. must be positively broken; whereas this is not true to the great

These are examples of the way in which religion might genuinely affect mental disorder. A further situation can arise, however, with proselytising sects if they have a tendency either to attract or to repel individuals who are already mentally disturbed. Roman Catholicism in some localities, for instance, tends to delay or discourage conversion in those whom the priest observes to be mentally disturbed but to welcome such conversion in others; whereas the Salvation Army not only accepts the obviously disturbed but often seeks them out to try and help them. With his neurosis cases Slater believed this tendency of certain evangelical sects to attract the disturbed to be the main factor producing the variations in incidence which he observed (although such a hypothesis cannot account for the special characteristics of his Jewish group) and we will have to keep the possibility in mind. Another confusing point is the tendency of non-religious people to cite themselves as belonging to a particular sect or church simply because a positive answer tends to be expected. However, this is not necessarily irrelevant, for the church which they cite is likely to be the one to which they were exposed in childhood, and for our purposes exposure at that age may carry influence, although admittedly that influence will be different from continuing contact in adult life. It is true that through this means some church affiliations are much more inflated with the non-religious than others, but this fact is not unconnected with certain intrinsic qualities of their creeds. A man is not likely to continue to call himself a Maronite or a Seventh Day Adventist after he has dropped contact with his sect, for it is the characteristic of such sects that contact cannot be casually dropped but usually must be positively broken; whereas this is not true to the great

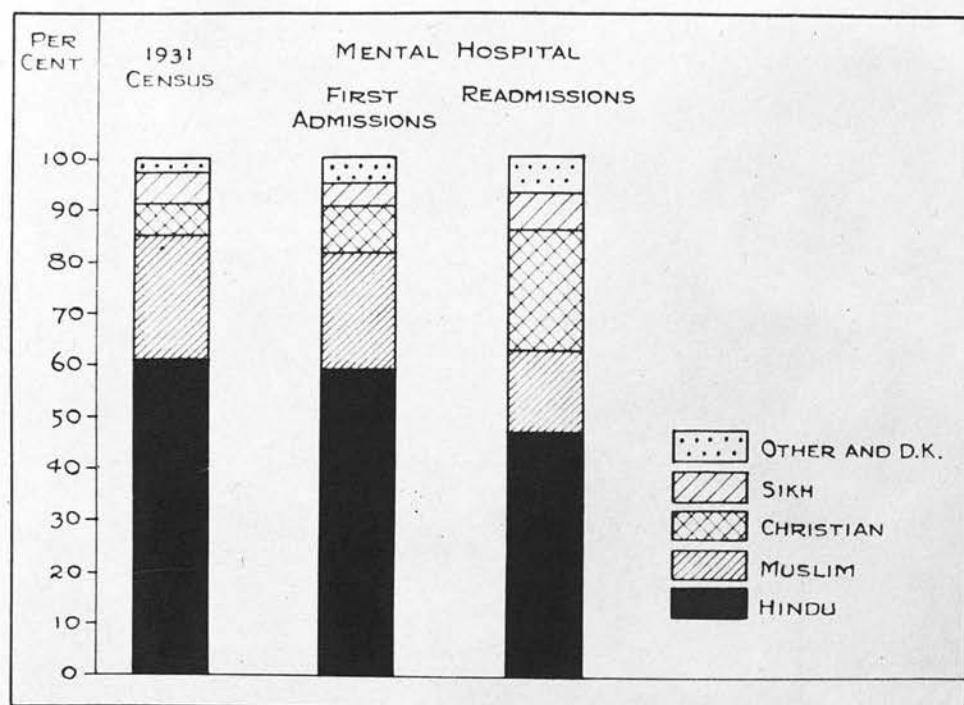


FIG. XXXIX. Percentage Distribution of Singapore Indians First and re-Admissions to Mental Hospital, 1950-54, by Religious Affiliation, as compared with distribution at 1931 Census.

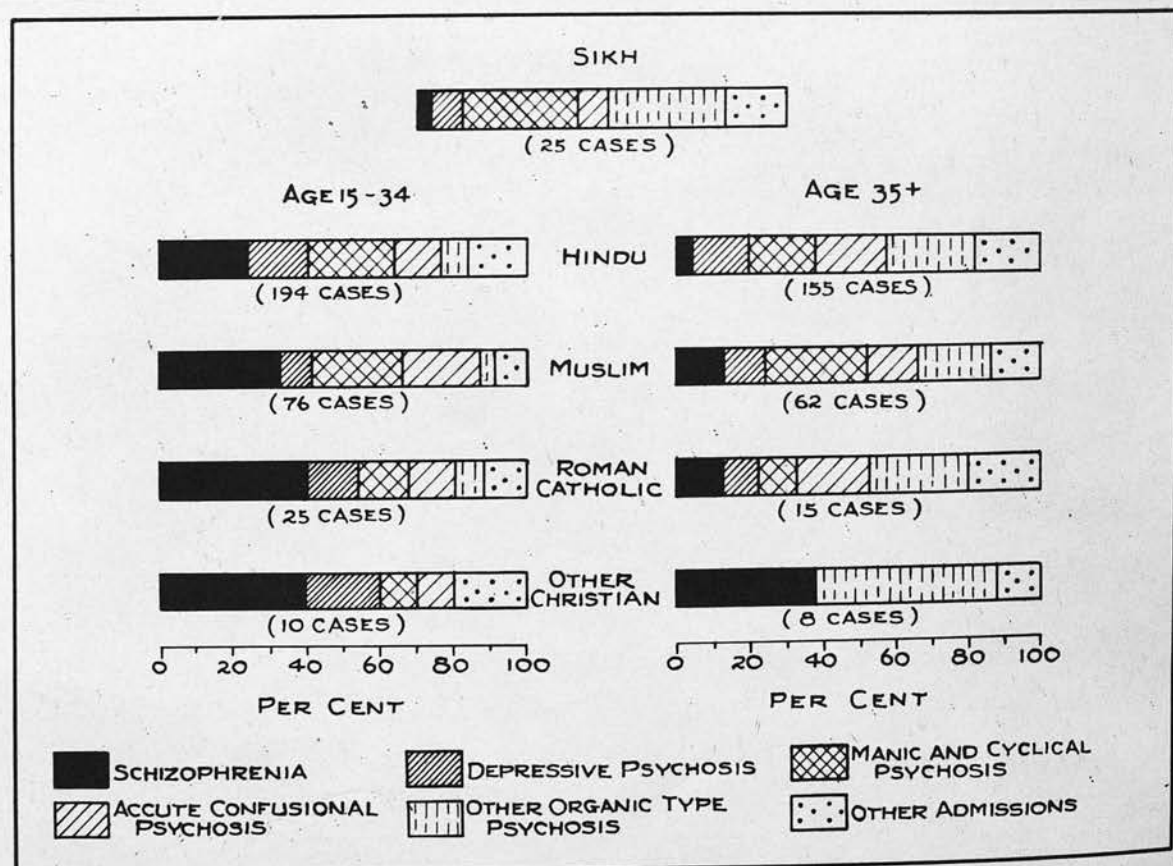


FIG. XL. Percentage Distribution of Main Diagnostic Categories in Singapore Indians admitted to Mental Hospital; by Religious Affiliation and by two age groups. (Some patients were too few to separate by age; Christian categories are shown separately but should be considered together.)

churches, of Hinduism, Buddhism and (though not everywhere) of Roman Catholicism. For these reasons I think we may accept as meaningful self-attributed religious affiliation without enquiring whether the individual is really a believer or not.

Results

Despite the fact that religion had been recorded in earlier censuses and noted for 3,969 mental hospital first admissions in Singapore, data which we can profitably use on this question are quite limited. This is because for the majority of the population religion goes hand-in-hand with broader ethnic culture and hence cannot be separated in its effects; virtually all the Malays are Muslim, all the Europeans and Eurasians Christian, and most Chinese follow some mixture of ancestor worship and Buddhism. It is only among the Indians that we find religion sufficiently divorced from other cultural factors for its effects to be potentially distinguishable, and even here we will find estimated incidence rates less informative than the proportionate distribution of different disorders.

The distribution of Singapore Indians by religious affiliation at the 1931 census is shown in the first column of Fig. XXXIX. There are good reasons for believing this distribution to be fairly stable - for instance, between 1921 and 1931 there was less than two percent change (Christians and Sikhs gaining and Hindus losing), and my own enquiries into religious conversions among university students, who are about the most liable of all sections of the population to be converted, having been exposed to Christian and Western influences so much, showed Indians to change very little - but it is admittedly not satisfactory for calculating 1950 incidence rates. We can therefore approach the question of incidence only roughly, but in one sense

the answer seems rather clear. We have learnt earlier that Singapore Indians in general have an unusually high mental hospitalisation rate. The second column in Fig. XXXIX shows us that no religious group within this population has clearly less than its share as might be estimated by projection from the 1931 census, with the doubtful apparent exception of the Sikhs. In this last instance, however, the 1947 census, which correctly treats the Sikhs as a people rather than a religion, shows that their numbers had relatively declined, so that their mental hospitalisation rate when calculated from this source proved not to be lower than the Indian overall rate, but slightly higher. Thus we find that among the Indians, with a high mental hospitalisation rate which one might expect to be susceptible to improvement, all religious groups retain about the same high rates of first admission. Only in the small number of readmissions does a difference in proportion of affiliations appear, and here what is striking is not that any group has so much fewer than the others, proportionately, but that the Christians have so many more. The probability of such a distribution arising by chance from the projected population is less than 0.001. Hence we find that although no religion is associated, in the Singapore Indians, with a significantly lower level of first admission to mental hospital (as far as we can estimate) the Christians are associated with a significantly higher rate of readmission. This could arise either from a difference in attitude towards the mental hospital, or from a difference in gravity of disorders. When we now turn to consider the diagnoses of these admissions and readmissions we will find that gravity of the disorder is certainly a factor.

Figure XL shows the diagnostic distributions, by two age groups, in Indian patients of different religious affiliation. What is most apparent is that schizophrenia increases its proportion as we move from the left to concerning this shift in schizophrenic rates.

the right of the figure, this being true of both the under-35s and the over-35s. The probability of these differences arising by chance is less than 0.05 (schizophrenia v. all other first admissions). Moreover, we see that it is the Christians, who earlier showed the excess of readmissions, that have the highest schizophrenia rates, so that we can say with some confidence, I think, that this religion is associated with a more serious form of mental disorder than the others (a check of the readmissions show them to be mainly schizophrenia, also).

In considering how this connection between Christianity and excess schizophrenia might arise the first point to think of is undoubtedly the proselytising activities of the Christian sects. I have said earlier that Indians appeared to change their religion relatively seldom, and one can say, I think, that the great majority of those Indian Christians were not recent converts but members of South Indian groups who have been Christian for centuries. Moreover, in South India the balance between the different religions is reported to have been stable for several decades, with the Hindus gaining as many converts from Christianity as the Christians from Hinduism, and yet the only (admittedly inadequate) data on the subject from there shows the same trend (Table 50) with Christians showing proportionately more schizophrenia than the others. I feel, therefore, that although the possibility of excess schizophrenia in recent converts cannot be ruled out, the probability is against that explanation of our finding. Moreover, between Muslims and Hindus there is today virtually no conversion occurring in Singapore, and yet the proportion of schizophrenia in the Muslim group is still significantly higher than in the Hindu ($\chi^2=5.78$; $p.=0.02$ by the fourfold method). Some further explanation needs to be sought for, therefore, concerning this shift in schizophrenia rates.

potential If we consider the various other social and cultural factors which we have already discovered to be related to schizophrenia, questions of social class, of English-language education, of region of origin in India, and of minority status all come to mind. The social class distribution is not the same for the different Indian groups, the Muslim patients coming excessively from Class III and the Christian from Class I and II. However, these facts, when compared with the previous chapter's findings, would lead us to expect the Muslims to have proportionately less schizophrenia than the Hindus (see Fig. XXXIII), not more, and the excess of schizophrenia in the Christian group proves not to come from Class II (who would probably be English-educated) but from Classes III and IV. It does not seem, therefore, that our present data are secondary to some the class, occupation or education factor. Nor does minority status appear to be important. Christian Indians are not ostracised by their Hindu neighbours or separated from them by cultural differences other than religion, but on the contrary have the social and financial advantage of additional access to the upper class European of his own church. The Indian Muslim, similarly, has as far as religion is concerned the whole mass of the Malays in potential contact, and intercourse between the two groups seems to take place (Abdullah, the author of the most famous historic chronicle of the Malays, was of mixed Indian blood). Regarding region of origin in India, we noted in Chapter 3 that schizophrenia was more common in the South Indian than in the Northern, and this might have an influence on our data since the Christians will be almost all Southerners. However, some slight data from India itself - the only useful data on the subject available from that country, a paper by Bhattacharjya⁽¹⁾ being too uninformative despite its of disorder.

potentially valuable approach through manifest religiosity rather than nominal affiliation - suggest that this is not the cause of our findings

either. In Hyatt	Region of Origin	Religion	Cases of Psychosis	Percentage Schizophrenia
William's Indian	South	Christian	10	60%
Army patients he		Hindu	34	32.4%
found that when	N.West etc.	Muslim	47	23.4%
region of origin		Hindu	37	18.9%
		Sikh	6	16.9%

was allowed for
Christians had a

TABLE 50. Percentage Schizophrenia in Indian Army Psychotic patients; by Religion and Region of origin (adapted from Williams⁽¹⁵⁾).

higher proportion of schizophrenia than Hindus in the South and Muslims than Hindus or Sikhs in the Northwest (Table 50). The differences are not statistically significant, but I think some emphasis can be placed on the fact that they are in all cases in the direction which the Singapore data would have forecast.

In none of these instances have we found a plausible explanation for the difference in schizophrenia incidence which we have observed to occur and I think, therefore, that we may now turn to consider what explanation might be derivable from the nature of the religions themselves. What we desire is some characteristic which each of these religions shares in varying amount but which is distributed in such a way that Hinduism is at one extreme, Christianity at the other, with Mohammedanism somewhere in between. (The Sikh data are too few to give the same weight to; we will discuss them briefly later.) Moreover, this variable should preferably, though not necessarily, have some plausible relationship to the types of mental state which we believe to predispose to schizophrenia, rather than to types of mental state which we believe to predispose to some other form of disorder.

Simply considering what variables show Mohammedanism to be in a middle position between the other two religions one can think, for instance, of the way in which their temples are used, the Hindu one being used to a limited extent on all days of the week but rarely crowded, the Christian one being crowded on Sundays but often virtually unused on other days, and the Muslim one being in between. Or one might think of the centrality and bureaucratisation of church organisation. Neither of these variables seem particularly related to individual mental strains or their protection, however; one would prefer some variable which touched the adherent more personally, in his personal relations to his God, his church, or his fellow-beings, for instance. Among this type of characteristic the one which appears to vary most in the required direction and to have a plausible relationship to schizophrenogenic mental states is, I suggest, the factor of consistency in teaching and in expectations.

A little thought will lead the reader to realise that this matter of consistency, which one tends to think as a steady property of all serious thought, actually varies considerably from religion to religion. It is strikingly emphasised in some Christian sects, but almost as strikingly absent in much of Hinduism. Let us consider Christianity. Christian apologetics take great pains to explain away or to deny any apparent contradictions in the teachings or behaviour of their God or prophets, while at the same time Christian ethics expect of the believer a consistency of behaviour and thinking which is supposed to permeate one's least action and most secret thought. Such consistency varies in its rigidity with different sects, roughly in accordance with their insistence on the doctrines of original sin and eternal punishment. For instance, the Church of England

has no very clear definition of sin, or of how serious a particular sin is liable to be punished; the Roman Catholic church has more definite ideas about sin and its punishment, stressing sins of thought as well as of deed, but has a mechanism whereby one can sin and still be pardoned later, thus avoiding the consequences; while certain of the smaller Protestant sects have wide definitions of sin and offer no easy escape from punishment so that one must be always on guard against a sinful - i.e. inconsistent - act or deed. But whatever degree of punishment is forecast, the expectation is present in all sects that one's life should be as closely as possible consistent with one's professions. In comparison the Muslim faith is not so insistent on such consistency. Its God is permitted to change his mind, to abrogate (naskh) former instructions or teachings, although such changes still need to be explained. Its people must follow certain beliefs and practices, but it is not expected that these will permeate into every corner of one's life and thought, and outside of these special situations one is fairly free to act as one pleases. As with the Jews - but lacking their present-day belief in atonement - the Muslims put more emphasis on belief and obedience than in moral consistency (although there have been various reform movements giving more emphasis to social morality), and the Christian concepts of original sin, atonement, and salvation through faith are regarded by them as repulsive or absurd.*

* For Muslim attitudes towards the Christian creed see H. G. Dorman's Towards Understanding Islam (New York, 1948).

In popular Hinduism, as in much of Indian thought, the consistency shown and expected is quite small. Albert Schweitzer has said of Indian philosophy that it "possesses in so remarkable a degree the will and the ability not to perceive contrasts as such, and allows ideas of heterogeneous character to subsist side by side or even brings them into contact with each other" (10). At the highest level of thought such apparent inconsistency is often either more consistent or more courageously honest than in many other religions, but to the ordinary follower the appearance of inconsistency is clear. He sees that a God can be naughty as a child (Krishna); that the same God can be both God of Destruction and Redeemer (Siva) and can be either sex alternately or even at the same time. He learns in the legends that sanctity need not be moral, that the demon Bhasmasura, for instance, having worshipped Siva for so long and so earnestly that he earned a great boon, could use that boon to try and destroy the very God he had been worshipping, and was put down not by superior power but by a trick. Hinduism therefore sets its ordinary followers no example in consistency, and in its demands on them failure to follow the rules is regarded as foolishness rather than as sin deserving of punishment such as the withdrawal of love by a heavenly parent. If Christianity can be said to reflect on a cosmic scale the relations of a child with its family, Hinduism should more appropriately be thought of as reflecting the relations of man with his natural environment. Caste is something natural and predestined, not something voluntary which one must adhere to by one's free will at the risk of sinning and hence of punishment in after-life; ritual should be strictly observed, but non-observance is foolishness in the same way as walking off a roof is - something stupid but not something forbidden. Further, the breaking of rules may possibly bring

one can say that the religion which demands of its followers most contribution in one's present existence, but even if regarded as sin it is more likely to be visited on some future existence, and between these two existences there is no continuity of consciousness, no memory of past misdeeds such as is supposed to be retained in the Christian and Muslim after-life.

The difference in mental state resulting from following one or other of these degrees of religious consistency is fairly clear. At the one extreme our thoughts and actions are free within a certain range and outside of that range we are limited not by the disapproval or displeasure of a parental figure of supernatural dimensions but by the action, perhaps delayed, of relatively impersonal and rather erratic natural laws. No obligation is imposed on one to try and make consistent sense either of one's own life or of the life around one. At the other extreme natural laws appear to cover much less of one's life and one has much greater freedom of action and of will, but at the same time the exercise of that freedom is expected to be directed towards making consistent sense of one's life in terms of one's religious creed, and incorrect or inconsistent exercise of that freedom of will, not only in action but even in private thought, is seen as liable to lead to punishment or loss of love. To be consistent in this way would be helpful and no problem if the world, or even if our religion itself, were fully consistent. But all religions contain contradictions within themselves and in our relations with the world conflicts and inconsistencies abound. In so far as consistent sense of the world is achieved mastery of that world becomes more possible and more rewarding, but in the meantime the more one is expected to act in satisfaction of expectations which are unfulfillable the more frustrating life or one's religion becomes. In consequence I think

one can say that the religion which demands of its followers most consistency, although possibly beneficial in other ways, is going to be the one most likely to lead to a schizophrenic breakdown in followers so disposed.

If the above argument is true, then I think we should be able to predict not only that certain religions will show more schizophrenia in their followers than others, but that such differences will appear more in dependent or secluded groups than in those much occupied in making their living, etc. This is because the expectations of the more consistent religion are carried everywhere within one and are likely to be most felt when other needs and pressures are least, whereas in the face of the day-to-day frustrations of an active life they are likely to receive proportionately less attention. I feel, therefore, that the above hypothesis should predict that the greatest religion-specific differences in schizophrenia incidence or proportion would be found in women, young people still dependent on their parents, the single rather than the married, and the economically comfortable rather than the economically hard-pressed. On two of these points our data give some confirmation. In the first place there are slightly more female schizophrenics than male in the Indian Christian group, although one can say almost certainly that there will not be more females than males in the relevant population (I know personally of Christian Indian labourers in Singapore whose wives and families remain in India). In the second place Fig. XLI shows that whereas the age distribution of patients with other forms of disorder is approximately the same for each religion, schizophrenia in the Hindus shows a later peak than in the Christians or Muslims, the latter showing most cases in the dependent years of late youth whereas the former shows most cases to fall at a later

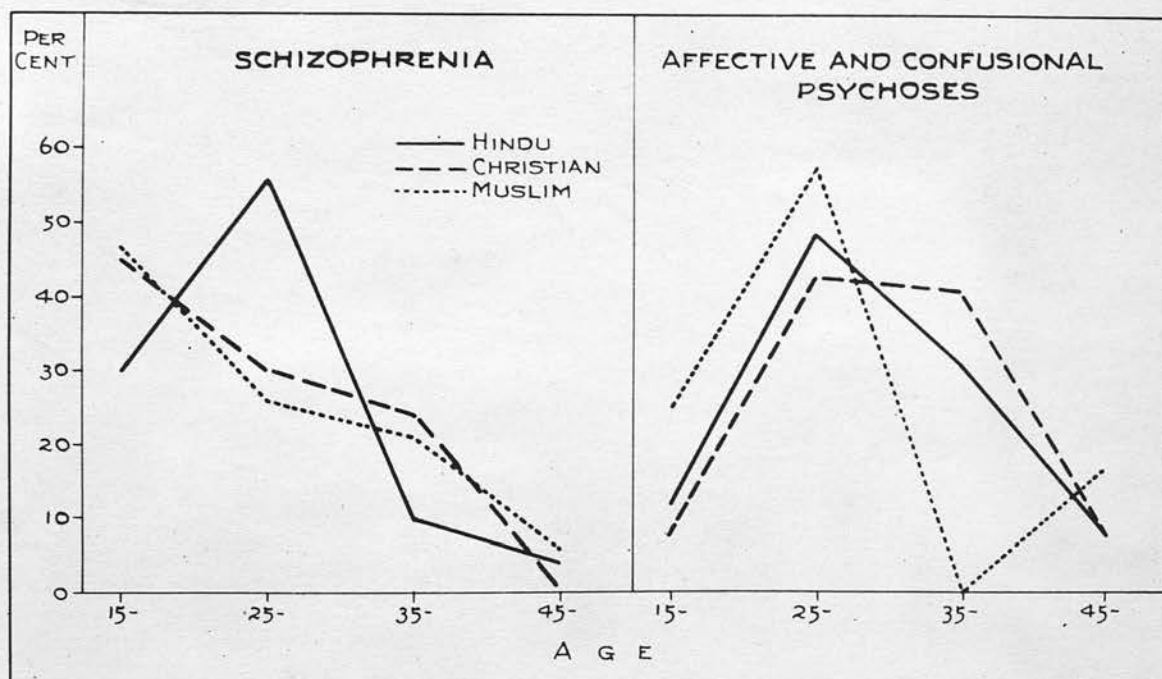


FIG. XLI. Percentage Age Distribution of Schizophrenic and of Affective and Confusional Psychoses Patients, Singapore Indians only, by main Religious Affiliation.

age. Absence of adequate census data prevent me from saying more, but these small additional points do seem to be in favour of the hypothesis I have offered.

One other expected prediction which that hypothesis would seem to point to is not borne out in the data, but here there is a serious question of what theory of causation one should follow. If depressive psychosis arose, as Freud and Abraham have argued, in part by an over-strong or overpunitive superego, then we should expect more depression in those people whose religion reinforces their superego strongly (Christians) than in those whose religion does so only slightly (Hindus), with the Muslims again in the middle position. Whereas Fig. XL shows that the proportion of depressive cases is about the same in all groups and the proportion of manic-depressive psychoses combined varies quite differently, with the Christians showing the least and the Muslims the most. However, when discussing the Indians earlier I argued that the type of depression which Freud described is probably quite rare among Indians, and that what is called depression in them is a much simpler form of psychotic reaction to loss. I also argued that manic psychosis might better be regarded as a pre-depressive response when loss of emotional supplies threatened to reach a dangerous level. On this theory, any function that religion might have with regard to the manic-depressive psychoses should relate not to the question of reinforcing the superego through emphasis on consistent behaviour, but to the question of emotional support. We might therefore ask how these religions compare in this respect. For the simple believer the degree of emotional support and satisfaction which a religion offers is probably related to the degree to which his God can be thought of as

semi-human, and as a fellow-adult rather than as a frightening super-father. If this is so then Christianity, with its Maria mother, its young Redeemer, and ideas like "Christ, the Bridegroom" would seem the most supportive, with Hinduism in its less intellectual form pressing it closely. Many Hindu Goddesses are looked on as sympathetic mother figures by their followers even though true Brahminism is very abstract. On the other hand Mohammedanism, by forbidding the creation of images, by having no mother figure, and by refusing to personify Allah except as an all-powerful father, would seem to afford the least support of this type. If this view of the manic-depressive psychoses is accepted, therefore, we can at least say that the relative distribution of this disorder in the different groups of patients is not surprising and might even have been expected, for the actual proportion is highest in Muslim and Sikh, next in Hindu, and least in Christian Indian patients.

In all the above discussion the Sikhs have been regularly mentioned but their place in the suggested pattern has not been explained. This was in part because their patients were too few for the ratios of different diagnoses to carry much meaning, in part because they are, in Singapore, rather a separate cultural group than a separate religious one. From the hospital data one gets the impression that their psychosis incidence is slightly higher than the average Indian one, and that they have little schizophrenia but an excess of manic and arteriosclerotic psychoses. From an analysis of newspaper crime reports and various other sources it is probable that crimes of violence among them are quite high. As mentioned in the previous chapter, their men are warrior-like and have a virtual monopoly of guard and watchmen jobs in Singapore, their other

main occupations being in commerce, administration and money lending. Their religion is a syncretic one, combining the more abstract features of Hinduism and Mohammedanism, but containing within itself a strong contradiction in so far as their scriptures (the Granth) are strongly pacifist while the whole sect, from the time of Govind Singh, have been strongly militarist. As far as that goes, therefore, their observed pattern of mental disorder would appear to fit the hypotheses offered above, the apparent tolerance of contradiction going in hand with a low schizophrenia rate while the absence of a personalised God matches the high manic-depressive ratio. However, their culture has so many other special features outside of religion that I feel doubtful about relating these mental health findings only to the religious side. Incidentally, their high ratio of arteriosclerotic psychosis is yet another example of this condition being associated with minority status.

Turning away from the Indians now, virtually the only religions about which one can say anything are the Christian. Among the Chinese, mental hospital first admissions show Christians to be much more numerous than projection from the 1921 and 1931 censuses would lead us to expect, while Chinese Muslim patients are fewer. Further, the number of readmissions among Chinese Christians is the highest, when compared with first admissions, of any segment of the Singapore population. Here, however, complicating factors do come into play. Relatively few Chinese arrived in Singapore belonging to the Christian faith, and of these few a disproportionate number are in the small dialectal minorities, the Hockchiu for instance, while some others are likely to have been refugees from Communism. The majority of Singapore Chinese Christians are first or second generation

converts, coming especially from those who have been educated in English-language mission schools and who in partial consequence have become culturally westernised and have found the ancestor-worship of their parents too superstitious. Conversion will thus have tended both to reflect and to create cultural friction between generations and mental disturbance in the younger (I knew such cases in my own patients). For these reasons, therefore, it seems incorrect to deduce that Christianity by itself is associated with more mental disorder in the Chinese than is ancestor worship and Buddhism. What one can say is that the picture does not contradict our earlier hypotheses, for the proportion of schizophrenia to other disorders is higher in the Christian than in the non-Christian Chinese patients, and higher in females than in males, though neither of these differences are statistically significant. Regarding the Chinese Muslims, the fact that they show fewer patients than projection from the census would have predicted is more probably related to culture than to religion. Chinese who adopt the Muslim religion in Singapore (there are Muslims in China, but virtually none come to Singapore) nearly always do so because they are marrying into a Malay family or because they have been adopted by Malays as children. They then tend to adopt not so much the religion of their hosts as their way of life, and religious affiliation is only the token.

(2)

(9)

and Roberts and Myers' New Haven studies a similar difference between Roman Catholics and Protestants exists, but in their populations it was known that the Catholics were of lower average social class than the Protestants, and since controlling for this fact was not attempted in their calculations no real conclusion regarding mental disorder and these religions

	Roman Catholic				Other Christian			
	Euro-peans	Eura-sians	T.	%	Euro-peans	Eura-sians	T.	%
Schizophrenia	10	13	23	37%	10	4	14	25%
Man. Dep. Psych.	2	9	11	17%	10	5	15	27%
Organic Type Ps.	4	3	7	11%	10	1	11	20%
Neuroses	3	2	5	8%	5	-	5	9%
Other First Adm.	6	11	17	27%	7	4	11	20%
Total	25	38	63		42	14	56	

TABLE 51. European and Eurasian First admissions to Singapore Mental Hospital, 1950-54; by main Diagnostic Category and Religion, Christians only. (Percentages to nearest whole number only.)

Chi²-3.63; p.=0.06 by the fourfold method when Schizophrenia is compared with Other Psychoses.

(Percentages to nearest whole number only.)

The Malays are virtually all Muslim and the very few Malaysian completely, and this is true equally of Protestants and Catholics. With Hindus and Buddhists are regrettably too few for analysis. The Europeans and Eurasians are almost wholly Christian (or of no religion), but in this case we can press our discussion a little further since the hospital did likely to be connected with certain of the Protestant sects, the state differentiate broadly between Roman and Protestant groups and, as Table 51 shows, a difference of borderline significance between their diagnostic distributions exists. As we see, the Roman Catholics in both ethnic groups produced a higher percentage of schizophrenia, this apparently more serious trait being associated with a much higher readmission ratio, which is 22 per 100 first admissions compared to 11 per 100 for the Protestants. (Most of the readmissions are schizophrenic.) Both in Dayton's Massachusetts and Roberts and Myers' New Haven studies a similar difference between Roman Catholics and Protestants exists, but in their populations it was known that the Catholics were of lower average social class than the Protestants, and since controlling for this fact was not attempted in their calculations no real conclusion regarding mental disorder and these religions

can be drawn. In Singapore, however, social class differences are not likely to be playing much part, especially since the Europeans had no lower rates of hospitalisation than the Eurasians. The observed difference, therefore, merits attention.

A clue to a probable explanation of the difference is provided by the fact that in Indian and Chinese Christian patients it does not appear. From that fact we may suspect that the difference stems less from the religions as such than from the ways in which they occur within the different groups. Asian membership of a Christian church is rarely a casual thing; it is likely to be adhered to quite strongly or abandoned completely, and this is true equally of Protestants and Catholics. With the Europeans and Eurasians, however, the same is not the case; religious affiliation may be purely nominal, but where this occurs it is much more likely to be connected with certain of the Protestant sects, the state churches like the Church of England especially, than with the Roman Church or with the smaller evangelical groups. This is because the Roman Church does not so lightly tolerate the purely nominal adherent and uses some pressure to obtain conformity, while the others tend not to retain loose adherence at all. Consequently, the important difference between the two Churches from our point of view is probably that the European and Eurasian Catholics are more exposed to their religion than the corresponding Protestants, and hence both gain and suffer from such exposure. On the above hypotheses, this gain should be reflected in greater emotional support and hence less manic-depressive breakdown, and the burden in greater worrying about conforming to religious expectations and hence ^{to} more schizophrenia. Which is

what we find, although not so clearly that one would want to put much weight on it.

These are all the data from Singapore which appear to bear upon the question of a relationship between religious affiliation and incidence of different types of mental disorder. Before closing this chapter, however, we can examine one further point, namely whether such affiliation makes any difference to the extent to which mental patients suffer from religious delusions or hallucinations. The matter is of some little interest since one frequently comes across the impression or assumption in medical and lay writings from tropical lands that mental disorder among the native peoples there is usually accompanied by visions of ghosts and demons, while on the other hand the frequency of delusions about God in European psychiatric writings about the turn of the century has been remarked on to me by a Japanese native psychiatrist as quite different from his/experience. Table 52 shows some data derived from cases coded myself, the matter having been too complex for my clerical assistants to assess. Unfortunately, those patients with no hallucinations or delusions recorded by their doctors were coded the same as those regarding whom the matter was not checked, and so the absolute incidence of total hallucinations and delusions is not obtainable.

From a very limited clinical experience, I have the impression that hallucinations are not infrequent among the Singapore Asian population, but on the other hand that these hallucinations are sufficiently much a part of tradition that they offer little disturbance to the personality. In a modern Western city a person who believes he has seen the devil is then likely to

	Delusions and Hallucinations		
	Total	Religious	%
Indian Hindoo	51	7	14%
" Muslim	20	4	20%
" Roman Catholic	4	1	25%
" Other Christ.	3	-	-
" Sikh	1	-	-
Total Indians	79	12	15%
Chinese Roman Cath.	12	3	25%
" Other Christ.	3	-	-
" Others	247	28	11%
Total Chinese	262	31	12%
Total Malays	33	3	9%
European Roman Cath.	3	-	-
" Other Christ.	11	1	9%
Total European	14	1	7%
Eurasian Roman Cath.	3	-	-
" Other Christ.	3	-	-
Total Hindoos	51	7	14%
Total Muslims	53	7	13%
Total Roman Cath.	22	4	18%
Total Other Christ.	20	1	5%
Chinese Traditional Religion	247	28	11%

TABLE 52. Percentage Religious Hallucinations and Delusions in Singapore Mental patients in whom some form of Hallucination or Delusion was recorded; by ethnic group and religion (sample only).

As the table shows, the percentage of religious delusions and hallucinations to other forms of these symptoms is remarkably even throughout all groups. In none can the proportion be said to be high; only for the Protestants do we get the impression that there might be a deviation from the general average, and this is not statistically significant. From a very limited clinical experience, I have the impression that hallucinations are not infrequent among the Singapore Asian population, but on the other hand that these hallucinations are sufficiently much a part of tradition that they offer little disturbance to the personality. In a modern Western city a person who believes he has seen the devil is then likely to

believe himself mad, this latter belief being a more serious disturber than the other. Among my Asian patients, however, such a hallucination did not result in a serious questioning of their own health, and although the patients who admitted such visions to me could not be called mentally normal none of them required hospitalisation and only one of them showed other signs of a psychosis. The matter would seem to be another illustration of the 'centrality of disturbance' theme which I discussed at the beginning of this book (p. 25). Whether this be so or not, however, our data do give the impression that within Singapore society religious affiliation does not significantly affect the type of delusion or hallucination which a mental hospital patient is likely to have. In fact, in reading case histories I found, as others in Asia have done, that the content of religious hallucinations or delusions was not necessarily connected with the patient's own religion. The commonest subjects were either vague devils or ghosts, or connected with Christianity, the latter being involved almost as frequently for those who were not Christians as for those who were. I do not remember any case, in the small selection I read, who had delusions or hallucinations relating to the Hindu pantheon or to a specific aspect of Muslim belief, but this might be due to lack of knowledge or interest on the part of the doctor who originally recorded the history.

Conclusions

The finding which I feel most requires stressing in this chapter is the negative one. In comparison with what different religions claim to offer their followers in the way of relief from the troubles of this world and internal peace of mind must now be put the finding that no one religion

has shown itself in our data to be able to protect its followers better than another when ^{major} PRIMARY GROUPS mental disorder is taken as an indicator of disturbance of mind. What does possibly happen is that different religions protect or expose their followers to different types of stress, and that in this respect Christianity is associated with a more chronic or relapsing type of disturbance than the others, as indicated both by the readmission rates and by the proportion of schizophrenia. Where we have found significant differences between patients of different religion, the direction of these differences appears to be in accordance with the hypotheses concerning schizophrenia and the manic-depressive psychoses put forward earlier in this volume, but the arguments I have used to draw the two together really require further testing before they can be taken as descriptions of the relevant mental processes involved. It has remained quite hypothetical, as must always be the case when large and relatively amorphous units are concerned. If we wish to explore the relevance of group membership to mental health, then we must, I think, turn from such larger units to primary or face-to-face groups, where the individual's involvement is indubitable. It is to a considerable extent only through such face-to-face groups that the various wider memberships which we have discussed can reach the individual, and until we know what effects the smaller groups have of their own, our knowledge of the effects they transmit from the wider society must be uncertain.

For these reasons it might have been expected that the influence of different types of primary group on mental health would have attracted much research, but we find on the contrary that virtually nothing has been done, certainly nothing related to the broader indicators of mental health and disease such as we are dealing with here. There are many studies describ-

Chapter 10

PRIMARY GROUPS

In quite a number of the social variables which have been found relevant in previous chapters, the concept of group membership has been an underlying or even basic element; not, of course, group membership in the sense of fitting some objective category but membership in its subjective and social meaning. The theories of social isolation and cultural marginality, for instance, are based on the belief that non-membership of certain types of social group is harmful, while many of the differences in findings between Singapore and the West seemed most easily explained by assuming that memberships which were of subjective importance in the one location were not so in the other. By our method of approach, however, the relationship of the group to the individual patient has remained quite hypothetical, as must always be the case when large and relatively amorphous units are concerned. If we wish to explore the relevance of group membership to mental health then we must, I think, turn from such larger units to primary or face-to-face groups, where the individual's involvement is indubitable. It is to a considerable extent only through such face-to-face groups that the various wider memberships which we have discussed can reach the individual, and until we know what effects the smaller groups have of their own, our knowledge of the effects they transmit from the wider society must be uncertain. For these reasons it might have been expected that the influence of different types of primary group on mental health would have attracted much research, but we find on the contrary that virtually nothing has been done, certainly nothing related to the broader indicators of mental health and disease such as we are dealing with here. There are many studies describ-

ing the interaction of individuals with their families, there are a few on the influence of the primary work group on neurotic absenteeism, and the 'small group' has become a special branch of experimental study in social psychology; but none have produced results or theories which appear applicable to the primary group as a wider phenomenon and hence none seem relevant to our present material. One reason for this is that no satisfactory typology of the primary group exists, the elaborate classifications of anthropologists being unsuited to modern life and the terms of experimental small-group work being as yet unrelated to real life. It is difficult, therefore, to connect the Singapore data which will follow to a wider theory of primary groups, and my comments will be rather haphazard. Perhaps, however, these observations will be of use as our theory of types of group and types of group influence develops.

The particular primary groups we are to deal with here are households, this being the only broad type on which any population data were available. Singapore is particularly rich in the variety of households that it holds, most of them with sufficient tradition behind them to possess a common pattern. To this extent, it is different from most Western cities where a wide range of accidental variations in households exists but where, except for one or two types, each household will tend to explore its own ways of working. Singapore still retains, for instance, the tradition of employees sleeping on the premises and eating with the employer's family, as was described in an autobiographic fragment quoted earlier (p. 97). Again, some Westernised Chinese are returning to an extended family pattern, but with several distinct changes from tradition. The Kongsis (see below), could also be classed under a number of types, each with its own tradition.

have the right to live there when they are old and unable to work. Single- However, the size of patient sample on whom it was possible to record the person households is the non-group unit, i.e. where the individual does not special extra information necessary was limited, and in agreement with the regularly eat together or share living expenses with anyone. Other households medical superintendent, Dr. Brown, who was to gather the information for me, comprised all those who did not fit another category, e.g., two brothers or I decided on only four categories, three groups and one non-group. They friends living together or the employer household described above, at least were as follows:

Simple conjugal family was taken to consist of married couples, with or without children (who might be adopted); similar units with one parent dead; and any other fragments which seemed closer in spirit to this than to any other category, e.g., a couple looking after young orphaned relatives. Traditional extended family was taken to cover all the more complex forms of family relationship in as far as ^{members} they lived and ate together. Usually, these tended to fall into an established pattern, with pooled incomes, family councils and the eldest male as the final decision maker, but complexity was the criterion, not pattern of decision-making. (Originally, two categories were tried here, but the less traditional one produced too few cases to be treated separately.) Kongsi, which is a Chinese word for club or society, was applied to any group of more than

three adults of the same sex but not related by blood, who formed one household. This is a standard form of primary group among the Singapore Chinese which is virtually unknown elsewhere, the kongsis in California and Hawaii comprising family groups. Usually members share some characteristic such as occupation, village of origin, or membership of some esoteric religious sect, but this is not always necessary. In some instances, members live together all the time while in others only those who are ill, retired, unemployed or on vacation do so, but a virtually universal feature is that all subscribe to a common reserve fund and all this survey excluded from sampling both the rural population of the island and

have the right to live there when they are old and unable to work. Single-person households is the non-group unit, i.e., where the individual does not regularly eat together or share living expenses with anyone. Other households comprised all those who did not fit another category, e.g., two brothers or friends living together or the employer household described above, at least as it affected the employees.

were

These categories/ designed to provide rough separation only, since it would have taken more than the time allotted to enquire meticulously into each case, and what we sought was rather how the patient or his friends saw the case than what an anthropologist or a lawyer would have made of it. No emphasis, for instance, was placed on what degree of legality a marriage possessed. As an example of our decisions, polygynous families were classed as either extended or as simple according to whether the wives lived under one or, as was more usual, under different roofs, this being in accordance with local attitudes, since wives having separate establishments ignore each other if they can and tend to call themselves sole wife (9). (It must be understood that the extended family was not usually polygynous.)

Table 53 gives the percentage distribution of the mental hospital sample as compared with approximately the same categories in the Social Survey 4% population sample, categorisation of the latter having been done by myself from their original survey material.

As has been mentioned previously,

this survey excluded from sampling both the rural population of the island and

	Mental Hospital Sample	Population Sample (7)
N.	377	11,744
1. Simple Family	53%	51%
2. Extended Family	23%	28%
3. Kongsu	8%)	
4. Single Person Household	11%)	14%
5. Others	6%	8%

TABLE 53. Percentage Distribution of Household Types in Mental Patient and in Urban Population samples; Singapore, 1954. (Percentages to nearest whole number.)

(7)

the wealthiest 17% of the urban population , exclusions which may have introduced a slight bias in favour of the single-person category and against the extended family one. But I would guess this not to be greater than 2%. More importantly, the Survey classed kongsi dwellers along with the single-person-household group, so that from this comparison alone we cannot gauge the relative mental hospitalisation rates of these two categories even roughly. What we see so far is that the extended family category has a slightly lower rate of hospitalisation than the simple family, while the other groups combined (one cannot say anything about the Other Households category; it is too much of a 'rag bag') have a definitely higher rate. An approach to the different non-family types, however, was possible through data compiled by the Singapore Improvement Trust Planning Survey. For a limited area of the central city all accommodation was classified, mainly on the basis of sex ratio and ratio of adults to children, as belonging predominantly to one of four types of living pattern. These types were 'family', which included all kinds; 'non-family residential' which covered kongsis, lodging houses, and any normal residential accommodation where there were no children (Singapore lower class families without children are almost unimaginable) or where the sexes were markedly unbalanced; 'non-residential' which covered mainly single people, usually destitutes and vagrants but occasionally a warehouse guard with his family, living in the basements and corners of office buildings, warehouses, and other structures not intended for residential use; and 'mixed', referring to houses where both families and non-families lived together. The area was central, comprising mainly multiple dwelling units, but it included the seamen's doss-house area and it was known to harbour an unusual proportion of destitute living alone in non-residential locations.

The accompanying rates (Table 54) were arrived at by marking house by house the four types of living pattern on the maps already spotted with patients' residences, deriving the adult population figures for each unit from the field workers' sheets, and

counting the patients marked on each type of house. The result offers no precise comparison with the data in Table 53, for the one is dealing with houses and the other with households, but one thing seems relevant.

Class of Accommodation	Adult Population	Cases	Rates
'Family'	21,944	141	6.4
'Non-family' Residential	2,357	22	9.3
'Mixed'	6,237	38	6.0
'Non-Residential'	441	21	47.6
TOTAL	30,979	222	7.2

TABLE 54. Mental Hospital Admissions from four types of Accommodation in Census Tracts 1-4, Singapore. (For explanation of classification see text.)

The Kongsis household will always be in residential accommodation, either 'non-family' or 'mixed'; the single-person-household, on the other hand, will be mainly living in residential houses but will also include most of those in 'non-residential' buildings. For the whole city a much smaller proportion of patients from non-residential addresses is to be expected than is the case in these tracts, but the latter will still inflate the single-person-household rate. In consequence, it appears to me that the kongsis category is likely to have a rate of mental hospitalisation only slightly above that for simple families (remember that in Table 54 'family' accommodation covers both simple and extended families) and that the single-person-household category will have a rate about fifty percent higher. Regarding the Kongsis I checked further by getting a list of addresses of women's units (kindly supplied by Mrs. Marjorie Topley, to whom I am also indebted for much information on them) and noting how frequently patients came from these addresses as compared to neighbouring houses. The method is very rough, since no numbers of residents were

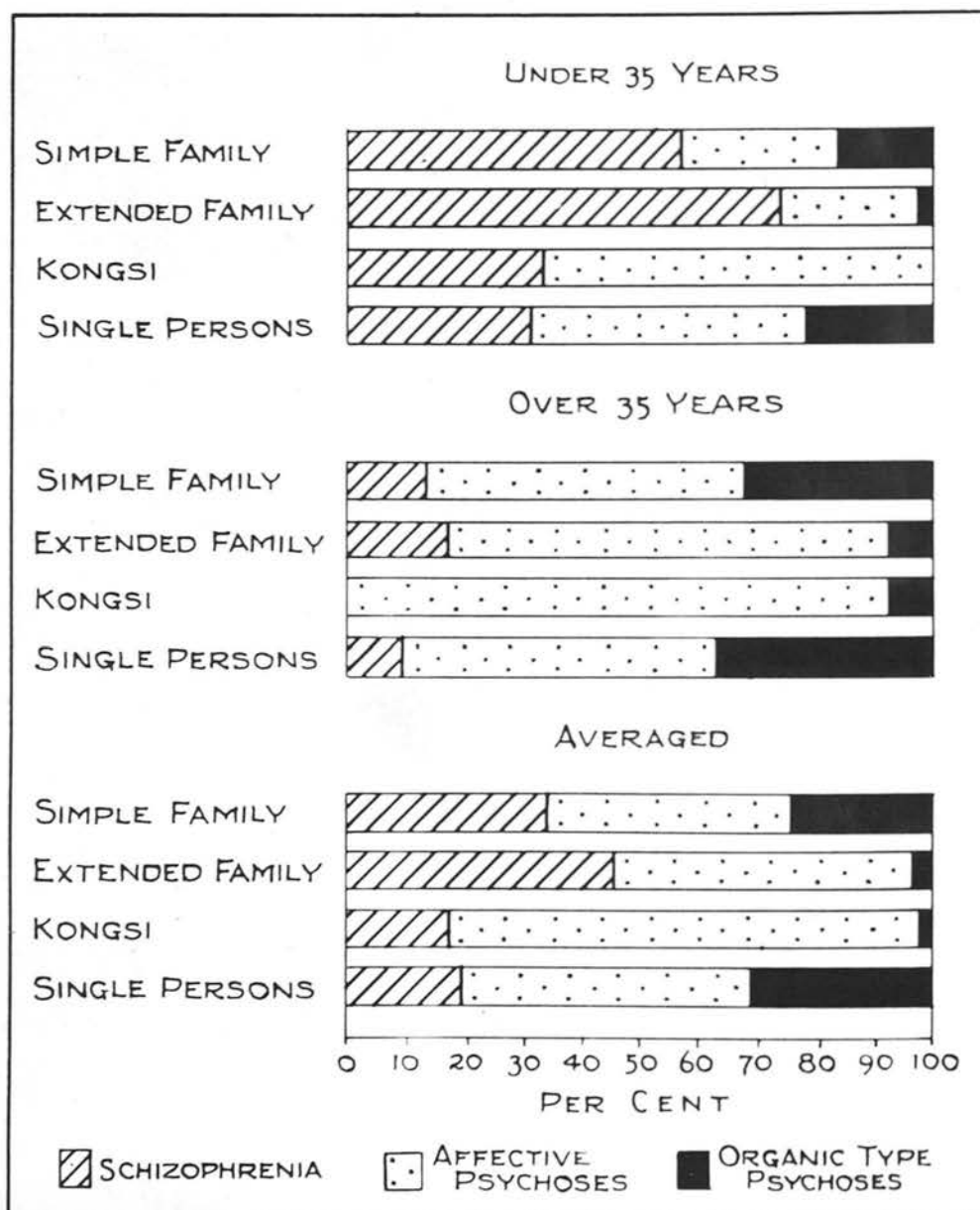


FIG. XLII. Percentage Distribution of principal Psychoses in Singapore patients coming from different types of Household Primary group; by two age groups and the average of these. (Note: the 'averaged' columns are offered as an elementary method of adjusting for age, since the proportions of the old and the young in the different categories of household vary greatly. For simplicity of presentation, also, only the three diagnostic categories are compared, patients admitted with other diagnoses being excluded from this diagram although included in Table 53.)

involved, but it was found that patients came less often from Kongsì addresses than from neighbouring ones.

The real purpose of these estimates was not that they should be considered in themselves, but merely that they should be a guide to the better interpretation of the data on diagnosis which now follow, for it is the latter which hold the real interest of this chapter.

PRIMARY GROUP	Simple F.			Extended F.			Kongsì			Single Pers.		
AGE GROUP	-35	35+	Av.	-35	35+	Av.	-35	35+	Av.	-35	35+	Av.
TOTAL CASES	113	86	199	55	31	86	12	17	29	16	25	41
Schizophrenia	50%	12%	31%	64%	13%	38%	33%	-	16%	25%	8%	17%
Mania	13%	15%	14%	4%	16%	10%	33%	23%	28%	19%	40%	30%
Depression	11%	24%	17%	16%	45%	31%	33%	35%	34%	19%	12%	15%
Invol. Melanchol	-	13%	7%	-	3%	2%	-	23%	11%	-	-	-
Confus. States	13%	12%	13%	2%	-	1%	-	-	-	12%	8%	10%
Arterio. & Senile	-	9%	4%	-	3%	1%	-	-	-	-	12%	6%
G. P. I.	1%	9%	5%	-	3%	2%	-	6%	3%	6%	16%	11%
Others	12%	6%	9%	14%	16%	15%	-	12%	7%	19%	4%	11%
	100%	100%	100%	100%	99%	100%	99%	99%	99%	100%	100%	100%

TABLE 55. Mental Hospital Admissions by Household Primary Group and by Diagnosis; percentage distribution (round numbers) for two age groups and for the average of these.

Fig. XLI, summarising in simplified form the data in Table 55, makes clear, I think, that our different types of household produce very different patterns of mental breakdown, the differences going much beyond the range of chance variation. Most striking appears to be the proportion of the organic type group of psychoses. Both in the older and in the younger age groups we see that the extended family and the kongsì samples have similar but low proportions of these disorders, an average of 3.5%, whereas the simple conjugal family and the single-person-household category have similar but high proportions, averaging 24%. This contrast is interesting, firstly, because the two-family categories, which we might have expected to be in most ways similar, fall on different sides, and, secondly because it is not merely the disorders of senescence which are

affected, but the acute confusional states and general paresis, i. e., not only the older age group (see Fig. XLI) but the younger also. We cannot account for the difference, therefore, either by saying that it stems from the difference between family life and non-family life or by arguing that the larger primary units (the extended family and the kongsi) retain their senile cases to a greater extent than is possible for the simple family. The latter may be true, but it cannot account for our findings in the non-senile cases. Some new hypothesis is required, therefore, to explain these findings, a hypothesis which will preferably show what potentially protective factor (for it is the low proportions, not the high, which look the more exceptional) is held in common by the extended family and the kongsi but is lacking, relatively, in the other two categories.

If we had only the extended family to consider, and mainly the disorders of later life, then the hierarchic system of the Chinese extended family and the prestige and respect accorded to seniors would appear the likely factors, since in the simple family these are probably less. However, the kongsi consists usually of peers, with perhaps a single leader, director, or house-owner to whom the others pay respect but otherwise without differentiating statuses. And in the kongsi are usually no children whose respect or whose affection the older people can enjoy. We must therefore look at some other characteristic of the extended family which differentiates it from the conjugal one but which the kongsi attempts to duplicate, and when we do this then I think the one factor which stands out is the multiplicity of adults within the unit. An extended family is not necessarily larger in absolute numbers than the simple family but it does, almost by definition, possess more adults in it, and probably (though not necessarily) more adults per child. This multiplicity of adults can be felt both as

advantageous and as disadvantageous. Intimacy with a single person may be less and for the child the link to his own mother may be weaker, although on the other hand relations are not likely to be impoverished through isolation (this can happen, however, with the disfavoured wife if there is polygyny). Status is likely to be more important, with advantages for the seniors and disadvantages for the juniors, and even if this is not so there are more interested people before whom one must act out one's daily life to whom, therefore, one must adjust. There are more people to interfere with one's plans (this may be so even with the kongsi, which has its own norms) and to demand a share of one's profits, but on the other hand there are more to share their finances with one, and to share problems and responsibilities. Quite a number of differences exist, therefore, between the more complex and the simpler households, all of which might have some effect on mental health. Concerning the observed difference in the organic type psychoses, however, the most probable factor appears to be that of shared responsibility. In Chapter Seven, I said of the single person living alone that he "is required to carry more on himself in order to achieve the same results, to be more mentally active, the mental activity being not necessarily of a high order but receiving less respite"; and I argued that it was this type of mental strain which was most likely to give rise to an organic type psychosis. If living with someone will relieve this type of strain somewhat, then surely living with more people might relieve it still more, provided they are capable of sharing responsibility and provided the group is so organised that such sharing takes place. If sickness occurs there is not the same need to continue working and risk, perhaps, an encephalopathy; if personal inefficiency makes all decisions difficult, then one can remain under others' guidance. Moreover, if the family and not the

person is thought of as the unit then personal failure can be subordinated to the hope that the family will still succeed, a hope which, being spread over more people, need not be so crippling either to the present or to the next generation. This is one possible explanation for the striking differences in the organic type disorders which we have found; if it is valid, then it may also shed some light on the contrasting incidence of the organic reaction type disorders in Eastern and Western cultures.

The organic reaction type disorders, however, are only one of the variations which Fig. XLI shows. There is an almost equally striking difference (statistically significant) in the schizo-affective ratios, naturally most obvious in the under-35s (Table 56), but this time differentiating not the more complex groups from the simpler but the two-family ones from the non-family categories. Considering that the non-family households have been shown to have probably a higher incidence of mental hospitalisation generally than the family ones, the main part of the present shift in ratios can be translated as an excess of the affective psychoses in the non-family pair. On the theory that these psychoses represent a reaction to lack or inadequacy of emotional and social contacts, this finding is easy to understand. The single-person-household group of patients are not the same individuals as comprised the 'strangers' in Chapter 7, but they suffer the same disadvantages. Whatever guessing we may have to do regarding their membership of wider social units it is clear that they not possess the same type of primary group membership as do those who live in families, and this is a type of membership which it is difficult to replace. The kongsi members, as I have said, do attempt to replace it, but it must be remembered that in many kongsis the individuals do not live there daily, that there is no mixing of the sexes

(12)

(the lesbianism reported to occur in some women's kongsis seems likely to increase emotional problems rather than relieve them), and that there are no children there either. The kongsi is a bold attempt to replace the extended family's security system, but it does not efficiently replace its emotional supportiveness, at least for the younger age group. The contrast in affective disorder rates between the family and the non-family categories need therefore occasion no surprise, at least if the simple theory of causation is accepted.

What makes this last conclusion

a little less satisfactory is that while

the proportion of total manic-depressive

cases varies in the expected fashion

there are differences, statistically

significant, in ratio of manic (and cycli-

cal) to depressive cases which are not

explainable on the same hypothesis. The non-family categories show a higher

ratio than the ~~non~~-family ones, but within each pair one finds that the

larger or more complex type of household shows the lower ratio, i. e., pro-

portionately more depressions. Between the two family categories, this

difference is found mainly in the under-35s, where it is statistically sig-

nificant in itself, but between the two non-family categories the under-35s

show no difference in the ratio and it is in the older patients that it

appears (involutional melancholia being included with the depressions in

each case). Neither the Freudian hypothesis for the causation of the af-

fective psychoses nor the simpler one which I have found more relevant to

Asian patients offers an adequate explanation why depression should appear

at one time and mania at another. At least, the suggestion I made earlier

Type of Household	Age Group	
	15-34	35 plus
Simple Fam.	2.1	0.31
Extended Fam.	3.2	0.21
Kongsi	0.50	0.00
Single pers.	0.61	0.15

TABLE 56. Ratios of Schizophrenia to Manic-depressive psychoses in different types of Household Primary Group; for two age groups.

that mania might be the response when emotional supplies are above a certain threshold and depression the response when they are below that level does not appear to fit the present case. The only alternative I can think to offer at the moment is that the choice of reaction may depend less on the situation than on pre-psychotic habits of reaction. An individual who is an integral member of a large primary group and not a dominant member in it must learn, if he is to take advantage of that membership, to control impulses and to adjust to other members' reactions; whereas ^{the} ~~an~~ ^{the} isolate, /member of a small group, or dominant member of a large one need acquire the habit of suppressing impulses much less. Entering a situation of dangerous emotional deprivation the impulse may be, as I have suggested, to grab at any source, real or illusory, which might seem to correct the deprivation, but the actual acting out may depend on whether other impulses in the past have been allowed expression or have been repressed in favour of the advantages of group membership (the recent past is referred to, not childhood, since the child in a small family may be under greater constraint to repress impulses than the one in an extended family where rejection by one adult can be compensated for by seeking out another). I do not feel this explanation to be satisfactory in relation to all instances of variation in the manic-depressive ratio which we have found. For this reason I suggest that not the theory but the finding be noted for future reference.

When one allows for the excess of affective disorders in the non-family categories there still remains schizophrenia, proportionately so much higher in the families. Is this due merely to the converse shift in the affective disorders, or is it worth considering in its own right?

Table 55 indicates that the proportionate incidence of schizophrenia is twice as high in the family as in the non-family categories, so that if this disorder were to be striking all four categories of the population equally the overall incidence of mental hospitalisation in the non-family categories would have to be double that of the family. This, however, is more than Tables 53 and 54 suggest, which means that schizophrenia does probably occur more frequently in the families than in the others.

I need not repeat here, I think, that this is in complete contradiction to the Western findings of Gerald and Houston (6), and of Hare (10); and I hope I need not repeat my argument that the single-living person is not in Singapore under the same social schizogenic strains as he would be in the West. If that argument is accepted then we have no reason to expect more schizophrenia in the non-family categories than in the family ones. This is not the same, however, as saying that we should expect less in the former than in the latter. If, as seems probable, young people living in families are more prone to schizophrenia than those living apart from families, then some further hypothesis seems required beyond those that have been offered so far.

There are two main classes of hypothesis available, the now familiar selection class and the equally familiar but hitherto more successful social causation class. Representing the first, one could say that families are likely to retain within themselves their weaker members, those individuals who would suffer a mental breakdown in any event, while permitting only the stronger to stray. Representing the second, one could say that families press more heavily on their younger members than certain types of other hand, cannot be easily kept in the family after marriage, it being rather shameful, except under special arrangements, for a Chinese man to stay with his parents-in-law. Our first hypothesis would therefore seem

schizoid personalities can tolerate, so that such people will tend to break down if they remain within the family but may escape the disease if they can get away. Both sound plausible but neither is wholly so. Regarding the first, what is not so clear is why these weaker members whom the families retain should develop especially schizophrenia rather than some other form of disorder. Regarding the second, what is not so clear is why the same is not to be found - or at least is not apparent - in the West, though in this case one might get round the problem by supposing two types of schizophrenia, the one associated with rootlessness and commoner in Western cultures, and the other with dependency and commoner in the Chinese. That schizophrenia can be associated with dependency we know^(1,2), but which cultural conditions encourage the one and which the other type we do not. The point here, however, is not to say which hypothesis is the more plausible, but to find some way of deciding between them on the basis of the way in which the data appear to fit their predictions. This is not easy to devise,

but it seems to me that a comparison between the married and the unmarried might give the answer.

Chinese parents rarely refrain from getting a son married because of some mental abnormality; on the contrary, marriage was once a prescribed Chinese treatment for such abnormality, and I have found this idea still to exist in the parents of my Singapore Chinese students. If they are protective in the way the first hypothesis would suggest, however, it seems

probable that they would arrange for their mentally abnormal married son to live with them, in a way quite approved of by tradition, and hence turn their family into an extended one. A potentially abnormal daughter, on the other hand, cannot be easily kept in the family after marriage, it being rather shameful, except under special arrangements, for a Chinese man to stay with his parents-in-law. Our first hypothesis would therefore seem

to predict that there would be an excess of young married males over young married female patients stemming from extended families, and perhaps an excess of unmarried females over unmarried males in both types of family.

(The former prediction would be incorrect if extended families tended to be polygynous, but Freedman found only 24 cases of co-residential polygyny in 1122 married couples, and in only one household were there more than two wives in the establishment ⁽⁵⁾, so that I think we can ignore this point).

Further, since we are concerned mainly with schizophrenia at this point, these differences should, if the hypothesis were correct, be predominantly in that category and not in other disorders. Table 57 shows that this prediction was not fulfilled, for there are many fewer married male patients than married female from extended family households, and no special excess of single female patients compared to single males.*

Patients Aged 15-34 Only								
Sex	Marital Status	Schizophrenia			Other Disorders			T.
		Simple Family	Extended Family	Total	Simple Family	Extended Family	Total	
Male	Married	7	3	10	16	3	19	29
	Single	21	12	33	16	6	22	55
Female	Married	10	9	19	18	10	28	47
	Single	14	6	20	6	2	8	28
		52	30	82	56	21	77	159

TABLE 57. Marital Status and type of Family Household of Schizophrenic and Other First Admissions to Singapore Mental Hospital. Age 15-34 only, by sex. (Sample only, excluding those living in non-family households and those for whom marital status was unknown.)

*The ratio of single to married females in the Singapore population is not the same as with males but after allowing for this the above conclusion still stands. In the 1947 Census 34.7% of Chinese females aged 15-34 were unmarried compared with 37.3% in the above patient sample, while for males the percentages are 63.1% and 65.5%.

second hypothesis, namely that family life, or at least Chinese family

From the other hypothesis a quite different pattern is to be expected, I think. Here the question of family pressures would relate at least partly to status, the more junior being the most exposed to pressures and the least well positioned to exert them. Hence it should make a great difference on this theory for a male whether he is a junior in his parents' household or the head of his own family of procreation, but it should not make any difference to the female, who merely substitutes one type of subordination for another. Hence on this hypothesis we should expect the ratio of schizophrenia to other disorders to be lower in married males in simple families than in single males, and lower also than in married males in extended families (always understanding that we are discussing the younger, 15-34 age group). Further, we should expect the incidence of schizophrenia in married males to be less than that in married females, ~~and the proportion of schizophrenia in married males to be less than that in married females~~, and the proportion of schizophrenia to other disorders in married females to be only slightly, if at all, lower than in unmarried females. Of these four expectations, all except the last is fulfilled, for the percentage of schizophrenia in married male patients of simple family is 30% compared to 50% for married males in extended families and 66% for single males, and there are seven married male patients from simple families with schizophrenia compared to ten married females, although, irrespective of the sex ratio in the total population, one expects the number of married males to married females in simple families to be equal. The number of patients on which these findings are based is quite small, with all the more risk of chance variation, but I still think that the data, as far as it goes, favours the second hypothesis, namely that family life, or at least Chinese family

Age	Type of Family	Males	Females	Total
15-34	Simple Family	31.3%	48.7%	100%
15-34	Extended Family	50.0%	50.0%	100%
15-34	Single	66.7%	33.3%	100%
15-34	Large	66.7%	33.3%	100%

TABLE 58. Percentages of each sex in patients Singapore, 1954, and Peiping, 1935. (3)

life, assists the development of schizophrenia in certain types of personality when they hold certain roles within the family group. The failure of the fourth prediction from this hypothesis may in part be due to the puerperal psychoses, which naturally appear almost exclusively in the married, or to an overemphasis on the subordinate role of the young wife in a Chinese simple family. Lest it should be thought that the same findings could also be accounted for schizophrenia occurring especially in the early twenties, when Chinese girls tend to be already married while Chinese boys are not, the answer is that in this particular sample the ratio of schizophrenia to other disorders is higher in married patients aged 25-34 than in the younger group.

In the last table a variation which the hypotheses did not really touch on was the proportion of female patients to male in the two types of family. Taking not only schizophrenia but all admissions, we find the extended family accounting for 27% of male admissions in the sample, but 36% of the female. The same proves to be true, as Table 58 shows, if we take not only the under-35s

ages but all admissions, and

Chou's comparative data (3)

from Peiping shows

that it is not the size

of family that is in-

involved, but the type,

the difference in percentages in his sample being quite marked. There are

a number of possible explanations for this, most of them not of special

relevance to our study; for instance, there might be a tendency for widows

Type of Family	Males	Females	
1. SINGAPORE (N=288)			
Simple Family	51.3%	48.7%	100%
Extended Family	42.2%	57.8%	100%
2. PEIPING 1935 (N=269)			
Small Simple F.	61%	39%	100%
Large " "	64%	36%	100%
Extended Family	48%	52%	100%

TABLE 58. Percentages of each Sex in Patients coming from Simple and from Extended Families; Singapore, 1954, and Peiping, 1935. (3)

a much higher probability of becoming insane than the younger, but that in to go and live with relatives while widowers lived apart or remarried. larger families differences disappear. His first finding is something. Fortunately, however, a limited enquiry into more detailed marital status can neither confirm nor dispute for Asian cultures, having foolishly omitted to distinguish between one- and two-child families in (5) records, and this shows a curious fact. I have already quoted Freedman as finding but the absence of differences in larger families does not seem to be true. only 24 cases of co-residential polygyny in 1122 married couples, a frequency of 2.1%. However, 9 out of 99 married female patients living in than three children there were three times as many calling themselves eldest families, from this sample, called themselves secondary wives living in male as calling themselves youngest male, and three times as many eldest extended families, whereas only two patients called themselves principal males as eldest females.*

wives living in extended families. My data probably contain wives of more Since a large percentage Status Chinese Others 23
doubtful legality than Freedman's sample did, but nevertheless the im- of the Singapore popula- Youngest 6 3 9
pression we get is that role does play a part here. I know from contemporary tion are immigrants the first Youngest 7 7 7
biographies that I have collected or had told me that the less favoured wife thing that one might sus- Youngest 7 7 7
in such families often feels herself badly misused. It is perhaps not sur- spect from this is that it TABLE 59. Sibling Status in a sample of
prising, therefore, that this role appears to produce an undue number of Hospital, Singapore, by sex, for patients
has been especially the coming from families with four or more
mental patients. eldest son who migrated, children.

We have now turned from considering primary group membership in while the eldest and perhaps youngest daughters were kept in the homeland. general to questions concerning specific roles within such groups, and the This suspicion apparently receives some support from the data, since ex- next data that I wish to present are related not so much to the family of mination of the cards shows that half of the eldest male category were im- procreation, which we have just been discussing, as to the family of migrants compared with only a third of other males. However, an alternative orientation. The question I asked myself was What significance to mental hypothesis might be that it was especially the eldest male of a large family health is it to be the privileged first-born male in an Asian family? Tra- who would break down when separated from his ancestral village. In China, ditionally he is the one who is prized most by his parents, must be respected by his siblings, and is the most likely to fall into the role of head of an the latter would have been more difficult to ascertain and less relevant. extended family (whether that family be co-residential or not). In the been more relevant to ask, though difficult, is whether the respondent was the United States, Schuler, carefully revising Pearson's original work on mental extended family group. One can still be eldest and owe the extra duties disorder and birth rank, has shown that in two-child families the elder has

a much higher probability of becoming insane than the younger, but that in larger families differences disappear (11). His first finding is something I can neither confirm nor dispute for Asian cultures, having foolishly omitted to distinguish between one- and two-child families in my records, but the absence of differences in larger families does not seem to be true. Table 59 shows that for Chinese patients coming from families with more than three children there were three times as many calling themselves eldest male as calling themselves youngest male, and three times as many eldest males as eldest females.*

Since a large percentage of the Singapore population are immigrants the first thing that one might suspect from this is that it has been especially the eldest son who migrated,

Sex	Sibling Status	First Admissions		T.
		Chinese	Others	
Male	Eldest	19	4	23
	Youngest	6	3	9
	Other	20	7	27
Female	Eldest	7	1	8
	Youngest	7	-	7
	Other	39	10	49

TABLE 59. Sibling Status in a sample of Chinese and other Admissions to Mental Hospital, Singapore, by sex, for patients coming from families with four or more children.

while the eldest and perhaps youngest daughters were kept in the homeland. This suspicion apparently receives some support from the data, since examination of the cards shows that half of the eldest male category were immigrants compared with only a third of other males. However, an alternative hypothesis might be that it was especially the eldest male of a large family who would break down when separated from his ancestral village. In China,

*The question put referred to sibling status, not to birth rank, since the latter would have been more difficult to ascertain and less relevant in a country where so many infants used to die young. What might have been more relevant to ask, though difficult, is whether the respondent was the eldest of his own siblings only, or eldest responsible male for a wider extended family group. One can still be eldest and avoid the extra duties and prestige if one belongs to a junior branch of the family.

tradition demands that if possible it be the eldest male who performs the annual rites at the ancestors' tombs, and for Japan William Caudill tells me definitely that the eldest son used to stay at home while younger sons sought their fortune in the city or overseas. I am doubtful, therefore, whether the eldest male was especially encouraged to emigrate, but I would not be prepared to put much emphasis on the above data, in these circumstances, were it not that some similar figures are available from Peking. These, quoted in Table 60, show that,

Only Child	37	12.3%
First born	102	34.0%
2nd "	83	27.7%
Last "	22	7.3%
Others	56	18.7%

although the two sexes are not separated, a quite abnormal proportion of the patients claimed to be first-born. Peking at that time had an abnormal population structure, with many migrants from other parts of China, but I can find nothing to suggest that the eldest male moved to the city more than other sons. One further advantage of the Peking data is that so far as I am aware the information was searched out for all patients in the sample. In my Singapore cases, the percentage not replying on this question was unusually high (over 20%) and the possibility existed that the identity status of eldest male was more easily retained by a disturbed mind than some junior status, whereas Chou's cases were selected as being able to give adequate personal histories. From these two pictures, therefore, it seems highly probable that the status of eldest male in a Chinese family carried extra burdens and extra risk of mental disorder, as well as extra prestige. In my own cases no particular diagnosis predominated, but in another study from Peking, that of Kao, Ting and Hsu, comes the statement that "if an individual is a first sibling, the chances are greater of

TABLE 60. Birth rank of 300 patients admitted to Peiping Municipal Asylum. (taken from Chou (3))

affective psychoses are negatively linked to group membership, but that this developing a parergastic reaction in the case of psychosis, but if he is a second sibling the chances of an affective reaction are greater" (8). This finding is similar to that of Schuler, who noted that the first-born in a two-child family has a greater probability of developing paranoid traits. Regrettably, the Chinese authors did not distinguish between two-child and larger families, while I myself omitted to distinguish the two-child and the one-child, so that in neither case can one definitely say that this difference between siblings crosses cultural boundaries. The matter deserves further and more careful enquiry.

This chapter has seen the rather unorganised bringing together of scattered items of information relating mental disorder to primary group types and roles. My main purpose will have been served if these have shown how potentially relevant this hitherto neglected area is in our general field. However, one or two generalisations seem possible. In the first place, it is of considerable interest to note that the question of group size seems to play the same role in primary group membership that we found it to do in the enormously larger dialectal groups. In the latter, we found a certain section of the organic reaction type psychoses to have a much higher incidence in small-dialectal-group members than in large-group members; in the present case we have found the organic reaction/psychoses generally (it not having been possible to analyse them separately with so few cases) to have a higher incidence in the smaller households than in larger, irrespective of whether these were of a family type or not. There are differences in the two patterns, but the similarity seems significant. Next, we have confirmed the point made several times earlier that in Singapore the

affective psychoses are negatively linked to group membership, but that this time the important factor is not numbers but intensity of interaction, the simple family producing no more of the affective psychoses than the extended

The main goal of this study was to examine various ways in which mental health can be affected by environment. This has been done, and the ways have been found so various that any broad conclusions on significant. (For instance, membership of the majority linguistic group in the mental health state of Singapore or of Southeast Asia would be a city tract was not important, whereas membership of the majority linguistic group in one's dwelling house was.) Thirdly, we have found that certain roles within families carry additional vulnerability while other roles carry unusual protection against mental disorder. This is a matter we have not dealt with so directly before, although we did discuss the relevance of cer-

The first point is that while evidence of association is one thing, proof of causation is quite another. This study started out with the assumption that the environment can affect mental health other terms of role than in terms of age that we did so. In Western cultures, much stress is placed on the difference in incidence rates shown by single persons and by the married, and this is usually attributed partly to selection and partly to the protective powers of family living. It seems to me however, whether such instances necessarily imply a causal relationship, that while that is valid the question of role may also come in. In Singapore, and the answer is obviously that they do not. Where two phenomena are we have seen that getting married is different for the male and for the female, that living alone may lead to less risk of schizophrenia than living with an extended family. Finally, we have found that while higher status that B is affecting A; that the association is accidental; and that there within the family is, like higher status in society, broadly beneficial to mental health, the individual with the highest potential status, the first-born male, is not benefited at all but apparently harmed by his position. the instances of association have been many and the probability of even one of them arising by chance was small. The possibility of B affecting A, i.e. of the mental disorder affecting the environmental variable, need

*All degrees of combination are also possible, including mutual influence.

C O N C L U S I O N

The main goal of this study was to examine various ways in which mental health can be affected by environment. This has been done, and the ways have been found so various that any broad conclusions on the mental health state of Singapore or of Southeast Asia would be absurd to attempt. There is little more to say that is concrete, therefore, but I might be allowed the indulgence of some musings over the theoretical aspects of the problem in general, with special reference to the possibility of prophylactic action.

The first point is that while evidence of association is one thing, proof of causation is quite another. This study started out with the assumption that the environment can affect mental health otherwise than through direct physical contact with the brain, and the intervening chapters have seen many instances where an association similar to that assumed has been demonstrated. It must still be asked, however, whether such instances necessarily imply a causal relationship, and the answer is obviously that they do not. Where two phenomena are found to vary in harmony with each other there are not one but four basic* explanations which have to be considered, namely: that A is affecting B; that B is affecting A; that the association is accidental; and that there is a third factor C affecting A and B together. Of these possibilities the question of accidental association need not concern us, I think, since the instances of association have been many and the probability of even one of them arising by chance was small. The possibility of B affecting A, i.e. of the mental disorder affecting the environmental variable, need

*All degrees of combination are also possible, including mutual influence.

not be seriously considered either in the particular instances with which we have been dealing, although there are situations where it will be relevant. The real question is whether it is the environment which is doing the influencing or whether some third factor is influencing both the liability to mental disorder and the person-environment relationship which we are tending to view from the environmental angle only. It could easily be, for instance, that a particular environment had been sought out by the individual, or that the way the environment acted was a response to the individual's behaviour, and in these cases the seeking and the behaving could easily be determined by the same internal factors as were in part determining the degree of liability to mental disorder. Alternatively, a subjectivist might say that the environment only exists in so far as it is perceived, and that it is never independent of the subject's mind. To this latter point the answer is easy, since in the majority of cases our picture of the environmental factors has not depended on the subject, the mental patient, but on criteria which are objective as far as he is concerned, however subjective they may have been to the psychiatrist, census taker, ~~ex~~ hospital clerk, or to myself. There were exceptions to this, but usually the possible significance of the patient's perception of his situation was then allowed for. It is the other possibility, that subjective factors might determine both the disorder and the subject's position within the universe of environments, which is more serious, but here the answer is that whether this third factor type of situation occurs or not (it probably does occur, but we have not here been concerned to test the matter), our data show instances where the A-influencing-B relationship is much the more probable. In

some cases, those in which such a third factor seemed the most likely, we have compared predictions based on the one assumption with predictions based on the other, and nearly always the hypothesis based on the assumption of direct causation appeared to fit the facts better. In other instances we have not specifically compared rival hypotheses, but explanations based on the third non-environmental factor assumption appear almost impossible to devise (e.g. in the association of Javanese psychoses with the economic depression), whereas explanations based on the direct influence assumption fell readily to hand even if the precise environmental element could not always be named. I feel, therefore, that environmental influence on mental health is as proven, for specific cases, as any complex fact dealing with social and psychological matters is likely to be. It might still be argued, of course, that it is not the environment which is the active agent in these cases, but what the subject brings to it, and that causation is thus not the correct term for the environment's role. Irrespective, however, of whether we accept this denial of the environment's active role (and in a number of our cases, notably those involving cultural conditioning and social expectations, the role would seem to be anything but inactive) the term causation seems justified if we can hope, as I think we can, that alteration of this one element - the specific environmental complex - will result in alteration of the health or ill-health pattern formerly associated with it. To have laboured this point so may appear unnecessary, but I felt it required because the conditions we are mainly discussing at present are the psychoses, and although environmental causation is commonly accepted as relevant for the neuroses and some psychosomatic disorders there is still a tendency to regard the psychoses

as in a different category, different mainly by reason that environmental causal elements cannot be found for them. Whether the two groups should be treated as different or as variations on a common ground is something we may discuss briefly later but what I wished to make clear now was that they do not differ in this particular aspect. Even proof that schizophrenia develops as a consequence of some biochemical dysfunction is not going to change this conclusion, however relevant such discovery may be for therapy, since the problem of causation is thereby only pushed back one step, and I see no reason why such biochemical dysfunction should not as readily be affected by mentally-mediated environmental influences as the brain and mind themselves.

The case for environmental causality having been presented, the question now arises as to what it is that is being caused or influenced. The instances with which we have been dealing have all concerned specific types of disturbance, either diagnostic entities like arteriosclerotic psychosis or at most disturbances of the individual-environment relationship which have been such as to lead to mental hospitalisation. These are types or dimensions of mentally-mediated ill health, but at almost no point have we considered evidence relating some environmental factor to the totality of such mentally-mediated ill health, however it may be defined. The question therefore still faces us whether variations in the environment, either natural or hopefully induced for preventive purposes, are likely to be affecting the total picture or are merely converting one type of liability into another. It could be argued, for instance, that the basic factor is the genetic, constitutional, degree of liability to disease, and that the environment merely assists in determining what form the disease will take,

absence of one set of precipitating or predisposing factors being unimportant since another set, apparently less relevant, will be used in their place, no experience, however innocuous it may seem, being too slight to provide an excuse for breakdown if the constitutional factor requires it. This argument is very difficult either to support or to refute on the basis of the material of the present study. It is true that we have seen the Singapore Indians to exceed the Chinese not only in the psychoses but in suicide, juvenile delinquency, crimes of violence, the neuroses (judging from student data), and some psychosomatic disorders (judging from hospitalisation data); and since I can find no evidence suggesting a compensatory shift in the opposite direction along any other dimension of disease we may justifiably say, I think, that this appears to be a proven instance in normal life where the total liability to mentally-mediated ill health in one group exceeds that in another. However, the groups in question are also racially and presumably genetically distinguishable, and although we may believe that the differentiating factor is an environmental one (culture) it cannot be disproved that it might be a genetic one. And, unfortunately, I cannot present Singapore data relating to so many different dimensions for any other couple of contrasting groups between whom race is not a factor. An answer to the question whether environment can affect the amount of total mentally-mediated ill health or only the type of such ill health must therefore be sought elsewhere. For a number of extreme but still relevant situations the answer is fortunately quite clear. In relatively controlled conditions like war-time combat duty or experimental starvation, in which it has been found that almost 100% of subjects become mentally disturbed when exposed for

long enough, improvement in the environmental situation, as by reduction of period of exposure, has been found to improve the clinical mental state without any observed worsening in some other dimension of behaviour. Any argument that the environment can only affect the type of manifestation but cannot affect the overall incidence of total mentally-mediated ill health, therefore, is belied. In situations of less extreme environmental pressure constitutional or genetic elements in the multiple causation are going to play a greater role and at the other extreme we can find patients so disturbed from birth that no alteration of the environment is going to create more than a minor change in the mental state. There seems every reason, however, for regarding such ill health as the outcome of the sum of all factors, in such a way that a big enough change in any one of these will affect the risk of total ill health and not merely the type, severity or time of onset, etc. It will always be difficult to prove the degree of responsibility of a single factor in this matter for the simple reason that a measure of total mentally-mediated ill health is difficult or perhaps even impossible to attain. That environmental factors can affect that totality, however, must be accepted. To say that such a factor can have this effect is one thing, and to say that the effect can be predicted is another. It is easy enough to observe that a particular environmental combination carries with it excess psychiatric risk and to suggest that some element of it should therefore be changed, but in this change we cannot leave a vacuum; something else must be substituted and the question is whether the substitution can be reliably predicted to carry any less risk. It might be feasible, for instance, to persuade a group of Chinese to adopt the Malaysian attitude

place bring changes. Reduction of frustrations in childhood, for instance, may improve adult mental health by reducing the residual tensions from towards social class and hence, possibly, to avoid the excess mental breakdowns which their lower strata presently show, but would this not mean that they had also to adopt Malay attitudes towards material wealth, the wealth which could ensure better physical health for their children and the avoidance of those mental disorders which stem mainly from somatic causes? The European housewife in Singapore today might be persuaded not to try to adjust to the many-cultured life around her but rather to return to the earlier European attitude, and in this case she would run less risk of schizophrenia if my hypothesis is correct, but would she not instead run even more risk of an affective breakdown? And if, in reverse fashion, we teach the Indian immigrant that the Chinese, Malays and other peoples of Singapore are his true neighbours, his true society from whom he should seek emotional and social satisfactions and to whom he should adjust, then he would probably have fewer affective breakdowns, but might he not run as great a risk of the more serious schizophrenia? In theory and in extreme cases modification of the environment promises improvement in total mental health, but in every-day life can we really say that one reasonably practicable pattern of experience will definitely lead to better mental health than another or will carry less risk?

Arnold Toynbee, before he found it necessary to rationalise a religious optimism which his own researches belied, expounded the principle of Challenge and Response in human development and pointed out that every successful response to some difficulty creates in time a new difficulty or challenge. In this same sense I think it true that every major environmental change which we may conceive as offering better mental health under given circumstances is liable to create new difficulties for us as time or

place bring changes. Reduction of frustrations in childhood, for instance, may improve adult mental health by reducing the residual tensions from which some disturbances grow, but if adult life later becomes more frustrating, perhaps for reasons outside society's control, then lack of training in meeting such situations may result in poorer mental health than if the childhood conditions had not been changed. To say, however, that children should therefore be introduced to frustration means that some will carry over into adult life disturbing tensions which, if that life becomes more stable and easy, may be balanced by no corresponding advantages. In this special sense it is true, therefore, that any major environmental changes which we can suggest or discover are likely to become liabilities if particular changes in circumstance must later be faced. In a more practical sense, however, the fear need not be true. We have no call to take into consideration the whole range of circumstances which man can imagine, and within the range which seems most relevant optimal conditions for health can, at least in theory, be devised, conditions which should reduce the circumstances which call forth each person's latent weaknesses and not merely substitute one type of predisposing or precipitating circumstance for another. Moreover, even the substitution of one type of liability for another is no mean goal, for some liabilities carry severe penalties under existing conditions of life and knowledge while the penalties incurred by others are slight. When conditions change beyond the range that was previously thought relevant the old optima will no longer apply, but that does not mean that new ones cannot be devised.

The above discussion of prevention has carried us somewhat ahead of the main argument, for although a case has been made out, I think, for environmental causation we have yet to consider how that effect is achieved

and in consequence how it can be interfered with. Few of the illustrations (shortly), and arteriosclerotic psychosis as the outcome of a possibly of excessive mental disorder which we have discussed are so drastic or so successful but overstimulating mental responses to special burdens. Hypoth- clear that simple removal of the individual from a specific environment can eses attempting to explain these associations without the concept of be recommended without thought, and for some of them such separation is stimulus and reaction have appeared less satisfactory. Some other asso- quite impossible - despite historic precedent we cannot today abolish all tations found, however, seemed to depend not on the environment eliciting Chinese first-born males, for instance. To know something of how the a reaction, but on the fact that no reaction was conceived to be possible environment achieves its effect on mental health, therefore, would enlarge or conceived to be necessary, so that need-satisfaction dropped below some the possibilities which we have for modifying that effect. critical minimum level. The cases I am thinking of here have usually been

My initial theoretical assumption in this matter was that all ones where emotional and social needs were inadequately supplied due to three elements of the classic psychological triad had to be involved before some form of isolation, and an associated manic or less commonly depressive the effect on mental health could be achieved, i.e. that the environmental state was thought to be an emergency type reaction to obtain or to conserve experience had first to be perceived, then a conception had to be formed the needed satisfactions. In such cases it seems most probable that frustration of need-satisfaction was perceived but that at the cognitive level of it in relation to former experiences, and finally there had to be a reaction, the effect on mental health being somehow connected with the last no appropriate or adaptive reaction could be devised. However, it is also event. In the light of our findings this now appears too simple, largely feasible that the environmental deprivation was so sudden and severe that because the possibility of deprivation without reaction was not considered. no adaptive or corrective reaction was possible before ego control was Of the nonenvironmental factors contributing to mental disorder genetic broken, as in the case of the Gurkha wives, for instance. We see, there- disposition to disease has been repeatedly mentioned, but inner pressures fore, that the most probable hypotheses linking environment and mental towards need-satisfaction and the affects of need-deprivation are quite as disorder in specific cases suggest not a single mode of action but something important. In most of the associations between environment and mental dis- slightly more complex ones. If these impressions are accepted as suffi- order which we have seen in previous chapters the hypothesis which best ciently valid for the present, therefore, some further, not specially seemed to explain the connection has been one which assumed the experience original, generalisations on possible preventive action can be given, to call forth a reaction which was basically adaptive but which later be- The main point is to distinguish between two types of situation. came maladaptive or disturbed. Schizophrenia, for instance, has in relation where circumstances are such as to lead to need-satisfaction dropping below to our data been best thought of as a failed or maladjusted attempt to some personal minimum level irrespective of any action the subject may take, resolve contrary pressures or demands (we will reconsider such theories then nothing other than alteration of that situation or special selection

shortly), and arteriosclerotic psychosis as the outcome of a possibly successful but over strenuous mental response to special burdens. Hypotheses attempting to explain these associations without the concept of stimulus and reaction have appeared less satisfactory. Some other associations found, however, seemed to depend not on the environment eliciting a reaction, but on the fact that no reaction was conceived to be possible or conceived to be necessary, so that need-satisfaction dropped below some critical minimum level. The cases I am thinking of here have usually been ones where emotional and social needs were inadequately supplied due to some form of isolation, and an associated manic or less commonly depressive state was thought to be an emergency type reaction to obtain or to conserve the needed satisfactions. In such cases it seems most probable that frustration of need-satisfaction was perceived but that at the cognitive level no appropriate or adaptive reaction could be devised. However, it is also feasible that the environmental deprivation was so sudden and severe that no adaptive or corrective reaction was possible before ego control was broken, as in the case of the Gurkha wives, for instance. We see, therefore, that the most probable hypotheses linking environment and mental disorder in specific cases suggest not a single mode of action but something slightly more complex ~~xxx~~. If these impressions are accepted as sufficiently valid for the present, therefore, some further, not specially original, generalisations on possible preventive action can be given.

The main point is to distinguish between two types of situation. Where circumstances are such as to lead to need-satisfaction dropping below some personal minimum level irrespective of any action the subject may take, then nothing other than alteration of that situation or special selection

by reason of a difference in prior experience and hence a difference in of individuals entering it is likely to prevent mental illhealth. Such way of perceiving the situation. It therefore appears possible that the situations are relatively rare, however, and they are in some ways the less serious. Avoidance of them is usually possible and recovery is usually rapid following cessation of the deprivation. In the majority of cases of the immediate experience being disturbed.

where we suspect the environment of affecting mental health alteration of the immediate environment and selection of subjects need not be the only preventive measures available. Potentially, at least, the fact that prediction of lessened risk as a result of preventive action can even be cognition and reaction must usually take place before mental health becomes thought of, and if associations are not reliably constant, on what can we affected means that different ways of combining experiences or of reacting base our forecasts? A number of apparently general associations between to them might permit the immediate environmental situation to remain substantially the same while its former adverse effects were avoided. The particular part of the Singapore population was concerned, and even within same situation can be perceived (or conceived, the point is in debate) by the individual in many different ways depending on what points of prior experience he chooses to relate it to, and such patterns of relating can be taught. If, for instance, we believe with Djilas that social classes are inevitable in no matter what 'free' society, then we may still be able to prevent some of the excess mental disorder which accrues to the lower classes by teaching a different way of looking at the subject. Or if valid in this changing world. In many of the associations which we have discovered, specific cultural elements or local conditions have appeared instance found to be associated with excess illhealth, then it may be possible to alter the latter by modifying the experiences which precede of more general references. The question is therefore what remains when and accompany that migration. The striking and hopeful thing about the such local elements are discounted; what general patterns have appeared to results of the present analysis is that almost no social factor was found to have adverse effects (relative to the average picture) irrespective of

On first search detection of a common pattern in all the environments prior experience; almost always we found some group in whom the adverse mental situations where we have found heightened mental hospitalisation effect experienced by others was greatly attenuated or absent, presumably rates seems impossible, unless, perhaps, one deals in platitudes. The nature

by reason of a difference in prior experience and hence a difference in way of perceiving the situation. It therefore appears possible that the majority of presumably causal associations between specific environmental associations and mental illhealth can change without the essential nature of the immediate experience being disturbed.

This last observation has its disadvantages as well as advantages, for reliable specific prediction of risk is necessary before prediction of lessened risk as a result of preventive action can even be thought of, and if associations are not reliably constant, on what can we base our forecasts? A number of apparently general associations between environment and psychosis have proved invalid as far as Singapore or some particular part of the Singapore population was concerned, and even within a single Western culture generalisations which seemed reliable in the 1930s are proving unreliable for later years. The immigrant-native differential, for instance, is changing drastically, and some of the Chicago urban patterns. However possible prediction (and prevention based on such prediction) may theoretically be, therefore, an immediate question is what generalisations we can make today which will continue to be reasonably valid in this changing world. In many of the associations which we have discovered, specific cultural elements or local conditions have appeared to be important determinants and these seriously limit the possibilities of more general reference. The question is therefore what remains when such local elements are discounted; what general patterns have appeared to be running through everything we touched.

On first search detection of a common pattern in all the environmental situations where we have found heightened mental hospitalisation rates seems impossible, unless, perhaps, one deals in platitudes. The nature

of our data, however, has lead to the contrasting of three broad categories of disorder, and for each of these certain patterns have become apparent. Let us therefore review these to see whether earlier statements were correct and whether any further abstractions are possible.

The following list summarises the main situations where we found schizophrenia to be either higher than the general average, or high with respect to some other apparently closely related situation; with the relevant contrasting circumstances.

<u>High Schizophrenia situations</u>	<u>Contrasting situations</u>
1. Housing Estates where ethnic mixing was high and attempts at developing a new joint culture occur.	Old-type suburb where cultural groups probably form separate ganglia, and little neighbourhood mixing occurs.
2. English education for Chinese, probably especially of Class II; and Class II Indians, English educated.	Vernacular education for Chinese Class I status for English educated; Class I and III status for Indians.
3. Local birth combined with immigrant parentage; and immigration as a juvenile.	Local birth with local parentage; and immigration as adult.
4. Housewife's role for British and Indian women in Singapore.	Male employment for British and Indians generally.
5. Army milieu and occupations with much supervision or dominance, for Southern Indians.	Army milieu for N.W. Indians, and occupations with freedom from supervision for Southern Indians.
6. Living within parent's family, for Chinese males.	Living away from/family, either as single householder or as head of own family.
7. Status of wife in extended family, especially as second wife.	Husband status generally, and wife's status in simple family.
8. Christian indoctrination, for Indians.	Hindu indoctrination for Indians.
9. Male roles in defeated Malaysian people (Atchinese in 1918) with strong warrior tradition.	Female roles in same people, and male roles prior to defeat.
10. Indeterminate, probably mixed, sub-culture or dialect, in Chinese females.	Specific dialect or sub-culture attribution.

We can detect in these quite varied pairs of circumstances, I think, two main themes distinguishing the left-hand situations from the right. In the first place group memberships on the left appear usually, though not always, less satisfying or comfortable than those on the right. This is either apparent from the list or can be inferred from the descriptions I gave earlier. The local-born person with parents who hold quietly to their homeland tradition and street companions who have a different culture; the Indian or British housewife whose compatriots live too far away; the Chinese who, having reached manhood, has not in his own household got away from the dependent or subservient position of the child - these and several others suggest that the left-hand column situations are less satisfying and that it is mainly with reference to human relationships that satisfactions are less, not with reference to economic needs, sex needs, etc. Not all the left-hand situations are of this nature, however, and by no means all situations which we would imagine to be unsatisfying fall within the list. The Atchinese warrior and the Christian Indian may have difficulties vis-à-vis other people, but the main difficulty of their situation is surely an internal one, for the Atchinese has lost an important part of his identity and the Christian has the problem of making that identity self-consistent. Again, the newly arrived immigrant's group satisfactions are surely poorer than those of the local-born person, even if the latter has immigrant parents. Although problems of human relationship or of group membership are frequently of importance in our list, therefore, we must qualify and extend our abstraction if it is to have general validity; and this brings us to the second theme.

European housewife has no other European to show her so easily how to effect

In all the left-hand situations, as contrasted with the right, we find that there is an unsatisfying situation for which the subject's previous experience provides no model solution, either because that experience is limited or because no true solution is possible. Furthermore, in all but possibly one (status of wife in extended family) of our examples we can say that the decrease in satisfactions has developed gradually, not suddenly, and in most of them simple withdrawal from the unsatisfying situation and return to a previously known, more satisfying, situation, is not possible. The Atchinese was not suddenly defeated; the threat to his warrior role commenced twenty years previous and had been struggled against ever since, till now regaining of that status is impossible. The Chinese male has grown gradually into manhood, and return to the presumably more satisfying childhood status is not possible. Or rather, return is possible, but blocked by cultural indoctrination, just as return to the homeland or parents is possible for European and Indian wives but loyalty to the husband is too strong an indoctrinated belief (a Malay woman would probably have much less qualms about leaving her husband and returning to her mother, if her husband took her among strange people). However, the most important point about all these situations is not the impossibility of a particular type of solution (returning to an earlier type of membership role) but the difficulty of all types of solution, at least in terms of the training which prior experience has given. The Southern Indian does not possess the training in reconciling himself to a paternal dominance which the Northerner has; the English-educated Chinese clerk has no model before his eyes of a successful combination of the two cultures that is within his reach; the European housewife has no other European to show her so easily how to effect

a transition into local society which will satisfy both herself and others; the Atchinese has nothing in his tradition to show what men can be when they do not think of themselves as warriors. Contrast these circumstances with those on the right-hand. There, either there is no dissatisfaction strong enough to pose a problem, or a problem is posed but a means of solution is relatively clear. The dweller in the old-type suburb presumably does not see a problem of creating a new way of life along with neighbours of different cultures; he remains within his traditional social groupings. The Class I Chinese who is English-educated has today a clear model of what he should try and become which will satisfy his own and his family's needs (if he had lived one or two generations earlier this might not have been true; we saw how the first Malaysian doctors in Java had so high a breakdown rate). The Indian or British male has in his employment much easier means of making contact with his compatriots or of establishing contact with other peoples. The Hindu can permit contradictions to lie side by side. In general, therefore, schizophrenia seems to occur more frequently in situations where the satisfaction of some need calls for an effort at achieving a solution to a complex problem with respect to which prior experience offers little guide. Presumably because one's fellowmen are so much more complicated than other aspects of one's environment, it appears to be especially problems concerning human relationships which give trouble (schizophrenia showed no apparent increase in the concentration camps where problems of obtaining food were so difficult) but this need not always be so. In previous chapters the element of conflicting expectations or conflicting goals was stressed, but now it seems to me that this is subordinate to the question of complexity. Where goals conflict but there

is a relatively simple choice to be made, then I think schizophrenia does not specially appear. As we will see immediately, the affective psychoses are just as likely, or a confusional state.

The situations in which we have found the affective psychoses to be increased show certain similarities to the high schizophrenia ones, but are in general different, as the following list shows:

High Affective Psychosis situations

Contrasting situations

1. Recent immigration. Longer duration since immigration, and local birth.
2. Residence among people mainly of different language or culture. Residence among people of same language or culture.
3. Living alone or at least not in a family. Family household residence.
4. Being of Indian origin, in Singapore. Being of Indian origin in India.
5. Being a male in Madras, where many males leave their families behind in the country. Being a female in Madras, where almost all females will be living with their families.
6. Lower class status for Indians and Malays. Higher class status.
7. Being a Malay male at the age when one must leave the maternal home, spend much time at work, and establish one's own household. Being a Malay male when one's own household is established, or a Malay female for whom return to the mother's house is easy.
8. Muslim indoctrination, for Indians. Christian indoctrination.
9. Unmarried status, for young Eurasian males to whom marriage is important but left to oneself instead of being arranged by parents. Married status for young Eurasian males and females.
10. Indians generally, including Class I. Europeans generally.
11. Involutional period for Eurasian females. Equivalent age for males and younger age for females.

Whereas with the high schizophrenia situations it was an unsatisfactory group membership which could frequently be inferred, here it is absence of some customary membership. To be outside of one's family, to have (for a Malay whose childhood emotional links to his parents are so strong) to establish a household of one's own, to have left one's village to seek work alone in Madras, to be recently arrived in a new land - this is the general type of situation which we find, and the key word is loneliness. However, when we ask what reaction the loneliness, i.e. the inadequacy of need-satisfaction with respect to social and emotional intercourse, has elicited, the further relevant point appears that no evidence of attempt at corrective reaction is to be seen, unless we count membership of a kongsi. Of course, the variables with which we have had to work may simply have failed to give indicators of such attempt, but one can assume, I think, that the man who lives among people of another tongue has not made much effort to seek accommodation with his own people. If we were dealing here with people not being able to obtain the necessary satisfactions except by effort, surely we would find cases especially in the Housing Estates, where they were working to create new social units, or in the first five years of marriage (not only Malay) where an effort at new contact must be effected. The key point about most of the high affective psychosis situations, other than that they are lonely, is that remedy is probably not difficult, provided one considers only need for social and emotional intercourse. The family, dialectal community, home village, etc., could probably be re-entered quite easily and be found to be emotionally satisfying (in the West, in countries with little migration especially, the man living alone tends to be someone who has not been able to relate well to his family or neighbour-

hood, but in Singapore he is more likely to be someone seeking work) and the only problem posed may appear to have been that of choosing between warm social satisfactions and other ones, economic, sexual, etc. In some of the situations the loss of membership is probably recent - recent immigration, recent Malay marriage - so that time for correction of the situation may not have been sufficient, but in other cases I suspect that correction was seen as not necessary or not possible, perhaps because the prior membership was felt to be so rich that no substitute would be adequate and because return was blocked for some other reason. However, this is getting too hypothetical. It is enough to say that our data suggest that this type of breakdown appears in excess where there has been a definite loss, not a gradual diminution, of social or emotional satisfactions, and where there is not so much a problem of devising a new and complex solution as an apparent choice between satisfying an emotional need and satisfying another. There are three items on the left-hand of the last list, however, that invite a little further discussion. It is noted that Indians tend to get this type of disorder more frequently than other groups, with the Europeans at the opposite extreme, that this condition increases with declining social class, but especially with Indians and Malaysians, and that involuntional melancholia occurs especially in Eurasian women. On the last point, the reader may remember, I rejected a number of obvious explanations (the cases were not widows, for instance) and suggested that it might be due to loss of narcissistic love for one's own physical beauty, now faded. Whether this is true or not it raises the question of self-love or interior substitutes for external society, and thence leads to the other two items. Different cultures train children differently to withstand emotional loss or satisfactions only to the former condition; more commonly I have treated the

deprivation, some giving much training by being parsimonious with their affections, others giving little by always surrounding the child with warm contacts, or at least by making deprivation unforeseeable and erratic. One would expect loss of social membership to be most important in cultures in which training to withstand such loss is weak, and least important where the children are well trained for this, and I suggest this may be a partial explanation for the contrast which we find between the lower classes and the upper, and between the Indians and the Europeans. If correct it adds a further variable, and a still further complication. If inadequacy of exterior contacts has led, as Freud would tell us, to the introjection of 'objects' or to the creation of an 'interior society', then it is relations within this interior society which are likely to be of especial importance for the affective psychoses, and one would like to know how in such cultures the environment effects these relationships. From the Singapore and Asian material one cannot say, I think, but it seems possible that what has been so obvious in all the Singapore Asian cultures as regards the affective psychoses might not be so relevant for the probably rather different type of affective disorder which is found in cultures well trained for emotional deprivation, the culture of the European middle class, for instance.

The third group of disorders for which, I think, a pattern of associations can be traced is less specific than the foregoing, partly for the reason that it was less commonly found in our data and so could not be subdivided so precisely. I mean the organic type psychoses, with most specific reference to arteriosclerotic psychosis and least reference to those conditions in which a specific, direct, external cause (syphilis, malaria, trauma) can be demonstrated. Occasionally I have sought for associations only to the former condition; more commonly I have treated the

whole group together, an approach which gives some ambiguity but was unavoidable. The relevant list is as follows:

Arteriosclerotic Psychosis

High Rate situations

1. Dialectal minority group membership, for Chinese males.
2. Religio-cultural minority group membership. (Sikhs)
3. Malaysian women's status in later life when failure to remarry may require commencing outside work for first time.

Contrasting situations

- Majority group membership for males and minority group membership for females.
- Religio-cultural majority membership.
- Male status and experience of work.

Organic Reaction Type Group

4. Being surrounded for many years by a society into whose customs one was not brought up and with which one had limited lines of contact (i.e. immigrant status).

Being native to, familiar with, and having better lines of contact with surrounding society (local-born status).

5. Lacking other people in one's household.

Membership of kongsi.

6. Simple family household.

Member of extended family with (average) more adults in group.

7. Residence in districts showing lower percentage mobility.

Residence in districts showing higher percentage mobility.

8. Lowest class status, for Indians only.

Higher class status for Indians and lowest class for Malays.

9. Lack of any formal education, for Chinese males, esp. Class III.

Literacy for males, illiteracy for females.

10. Cantonese tradition of seeking outside work and of independence, for females. (Hakka also included.)

Hokien and Teochui traditions of females staying at home, dependent on males, for females.

Here it can be seen that we are not mainly concerned any more with emotional needs, for, with a few exceptions, the situations on the left are probably as

emotionally satisfying as those on the right. The point that does obviously run through the list is the question of handicap in competition for social and economic rewards. The illiterate man is handicapped in arranging his affairs in a modern urban environment, the man living alone is handicapped for lack of someone to relieve him occasionally, the lowest class is handicapped generally, but especially the Indian who is usually an unskilled labourer with no background guidance to improve that position (whereas the Chinese did have precedents) and no local homestead to return to (as the Malay may do). In earlier chapters I have offered hypotheses to explain the association between this type of handicap and this type of psychosis, but one can reject these and still see that the association exists. What is more important than discussing these hypotheses is to note that while such handicaps may operate in relation to basic needs, our list suggests that social standards of attainment are also important. The Singapore rural area being relatively fecund, satisfaction of basic material needs could be achieved as easily by the handicapped as by the more fortunate, if that were all they aimed at, and the Malay village culture could satisfy their emotional needs as well as any other. So these cannot be the satisfactions which our urban samples are seeking. Rather, the goal with regard to which a handicap exists for the left-hand groups is that of conformity to certain social standards of wealth, acquisition, effort, display, success, (even the immigrant's remittances to his home are determined as much by expectations both there and in his new location as by absolute need) and when we consider how the standards or expectations are established for different groups then a further common factor in the above list appears. In almost all cases the reference group for individuals in

the left-hand situations is not the group in which our contrasts have placed them, but rather the group occupying the contrasting right-hand situation. The immigrant may set his aim according to standards existing in his home village, or existing among the same generation of immigrants, but more probably he will do so in terms of the previous generation of immigrants and their local-born offspring. The lower class will not set its aim at the standards of Class I, but neither will most individuals set it to the existing attainments of their own class; rather they will aim at the attainments possessed by the class next above them. The Cantonese woman labourer does not put herself apart from other Chinese women in what she wants materially but rather uses them as her model.

This last point is important, I feel, and important perhaps not only for this one category of mental disorder. Basic needs and their satisfaction are relevant to our discussion, but much more relevant are the things which prior experience and the surrounding society have taught people to regard as needs. Even if the question of training for emotional deprivation had not come in, the question of prior experience in emotional satisfactions would still be relevant. If prior satisfactions have been very high, then changing to a lower level of satisfaction which other people regard as good may be treated as catastrophic. A social situation which an individual finds supplies him with all the memberships he needs may come to seem unsatisfactory and to require change simply because some reference group says so. It is for this reason, therefore, that one sometimes finds high rates of mental disorder in what appear to be the most satisfactory social situations, and lower rates in poorer situations. The critical level of satisfaction or deprivation which is relevant to our

subject is not that which we ourselves consider to be critical, or which has been established as such by experiment in artificial conditions, but that which is felt by the subject to be critical after he has been influenced by that society which he regards as his own. In a related context Max Lerner points out that the American factory worker has not become the discontented in the way Marx and others predicted, because while he lacks the satisfactions of contact with the soil and individual creativity which theoreticians have regarded as necessary, he does possess those satisfactions which his culture has taught him to seek (2). Important, is the training or guidance which that. These generalisations have referred to specific types of mental disorder. Is there anything which we can abstract still further from them with regard to mental health or mental disturbance in general? Admittedly, such abstractions of abstractions are going to be airy food, but they may still have some slight relevance to the way in which we approach any new question of possible environmental influence. It seems to me that our findings, and more especially the generalisations drawn from them, have stressed three main areas of environmental influence, three dimensions or abscissae with the aid of which it might be possible to predict the probable state of mental health. The first point is the degree to which the environment is, in a particular situation, satisfying those needs which the subject believes himself to possess. If satisfaction were very high, which it never is, then there would be virtually no environmentally induced mental ill health, as long as that state of affairs lasts, irrespective of what we may say of the other areas of influence. If the level of satisfaction were low, however, the converse does not necessarily hold. The concentration camps saw a lower Japanese-Americans adjusted to Chicago life than consideration only of the

level of satisfaction for a number of needs but no detectable increase in mental disorder, at least for the time being, and the same may be true of many jungle tribes living at subsistence level. The second area concerns the facilities or obstructions which the environment offers to the improvement of these need-satisfactions, or the degree to which it facilitates the envisaging of improvement in the future. If a wife is a perceived need to males of an African tribe, mental health will probably vary, other things being equal, with the anticipated difficulty of obtaining the bride-price. The third area, and probably the most important, is the training or guidance which that environment has given, relevant to the attaining of better satisfaction of the dissatisfied needs. To our same African tribesman bride-stealing is probably the most simple method of getting a wife. Such a solution would conflict, probably, with the desire for self-preservation but recognition of such conflict is less likely to cause mental disturbance than the fact that the environment has trained him to disregard such solution, or to give it a strong negative value.

The value that thinking in terms of these three areas may have lies in avoiding the blunders which arise through thinking only of one of them. If one considers, for instance, predicted levels of mental disorder in white migrants to the tropics, then it is clear that asking what special satisfactions were being sought and what facilities or obstructions existed to their attainment would have been more helpful than considering only the difficulties which their cultural background posed to the attaining of satisfactions in general in a tropical milieu. Conversely, consideration of the training which their culture had given them in the use of certain available solutions resulted in a better understanding of the way displaced Japanese-Americans adjusted to Chicago life than consideration only of the

trauma they had suffered and the apparent obstacles in their way would have
(1)
done . Having to think of the way in which prior experience lays down
the basis for certain lines of action may seem almost the same as saying
that predictions can only be made in the light of the cultural situation,
but that is not quite so. Where basic needs are unsatisfied and where the
situation offers no promise of solution, then mental ill health is going to
rise irrespective of the culture. Also, my suggestion does not imply a
knowledge of the full culture, but only of certain aspects which may be
easily known or may for certain situations be common to most cultures we
are likely to deal with. A much greater difficulty, as I see it, is to
know what human needs are, and whether they are all relevant to our subject.
The need for food, for instance, is remarkably seldom associated with
mentally-mediated ill health under natural conditions (perhaps because of
the masking physical ill health), and the view that sex is a primary need
seems challenged by the long history of successful adjustments in cloisters
and nunneries. Apparently it is needs relating to social interaction which
are most relevant to mental health, but what these needs specifically are
and why they are the more relevant we do not know. Hence I would feel it
easier at the present moment to try and assess the way in which an environ-
mental situation or background facilitates certain satisfactions than to
say what needs these satisfactions refer to and hence what other means of
satisfaction might be available. For the development of our subject this
might be the most important theoretical point to tackle next.

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